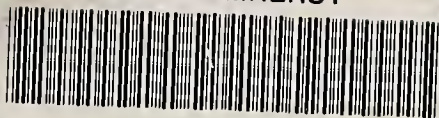
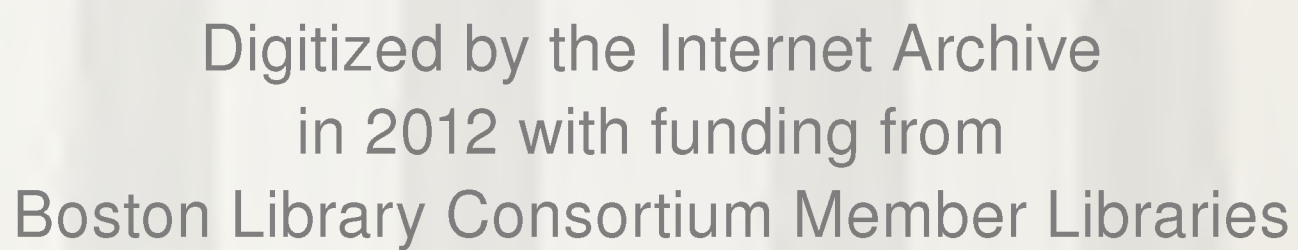


UMASS/AMHERST



312066016845684



Digitized by the Internet Archive
in 2012 with funding from
Boston Library Consortium Member Libraries

<http://archive.org/details/annualreportdivi1984mass>

MASS. EA15.1: 984

✓



Annual Report

Division of Forests and Parks
Fiscal Year 1984

GOVERNMENT DOCUMENTS
COLLECTION

JUN 28 1990

University of Massachusetts
Library Copy

COMMONWEALTH OF MASSACHUSETTS

DIVISION OF FORESTS AND PARKS

ANNUAL REPORT

FISCAL YEAR 1984

GILBERT A. BLISS, DIRECTOR

The fiscal year 1984 report of the Division of Forests and Parks is contained in reports of Division programs and activities prepared by the five bureaus.

This year saw several major positive events take place including the receipt of the largest capital outlay budget in agency history, staffing of heritage parks, the initiation of management of Plymouth Rock, the completion of Phase 2A of the ski area expansion at Mount Wachusett, the drafting and adoption of Forest Cutting Practice Law Regulations, a major effort to make management planning of forest and park properties (GOALS) a Department priority and the re-establishment of the Statewide Trails Advisory Committee as a companion to an accelerated trail acquisition and management program.

The G.O.A.L.S (Guidelines for Operations and Land Stewardship) has provided an opportunity to develop management policy in regard to certain matters that are special concerns to the Division. The following are examples:

- Harold Parker State Forest - forestry harvesting techniques in suburban locations.
- Wendell State Forest - vegetation control and wildlife management techniques on utility corridors.
- Myles Standish State Forest - studying the origin, importance, and responsible management of pine barriers as an extensive unique resource zone.

Demonstration of the discharge of our management responsibilities in regard to resource protection and resource allocation is a major product of this planning process.

A change in management occurred in Southeastern Massachusetts during the past year. Manuel Roderick who has served in the Division for many years, most recently as Regional Forest and park Supervisor in Region I has retired. His skill in dealing with park rehabilitation, maintenance and general management will be sorely missed.

Alden Cousins has been appointed to fill this vacancy. Slim returns to the Division of Forests and Parks after extended service with the Bureau of Solid Waste.

B U R E A U R E P O R T SBUREAU OF RECREATION -PAGE

CHARLES H. DANE, CHIEF

4

BUREAU OF FOREST DEVELOPMENT -

THOMAS F. QUINK, CHIEF FORESTER

12

BUREAU OF INSECT PEST CONTROL -

CHARLES S. HOOD, CHIEF SUPERINTENDENT

44

BUREAU OF FIRE CONTROL -

ANTONIO CASTRO, CHIEF FIRE WARDEN

73

BUREAU OF URBAN SERVICES -

ROBERT E. FREEDMAN, CHIEF

99

ANNUAL REPORT

FISCAL YEAR 1984

BUREAU OF RECREATION

CHARLES H. DANE, CHIEF



In FY 1984 we experienced a significant drop in both attendance and income at areas which relied heavily upon water based recreation. Camping revenue declined slightly, though camping attendance held fairly constant. Skating Rinks however, performed well with increases in both attendance and income. Rink personnel are to be commended for their obviously successful efforts to increase program use.

In a FY overview, the Bureau experienced about a 4% drop in both attendance and income from last years level. Lets hope for better weather in FY 85.

DIRECT USE OF REVENUE

In Fiscal Year 1984 we realized the benefits from the 1983 establishment of account 2120-0810-00. This is the so called "Roll Over Fund" which allows us to retain most income from collection of fees in excess of 5 million dollars. This money is intended to improve recreation areas and the service we provide. The result of this was the statewide expenditure of \$360,000 on much needed items, which would not have been possible within our regular operating budget.

NEW ACQUISITIONS

The Department acquired 57 parcels of land in FY 1984 with a total acreage of 1,659.79 and a cost of \$3,417,565.00. These were all additions to existing facilities such as to the Appalachian Trail, the Holyoke Range and Blackstone River State Park.*

A great deal of work was accomplished relative to the purchase of these and additional properties, but due to the involved processes of land acquisition these efforts will be reflected in the FY 85 Annual Report.

*See Appendix

PUBLICITY

Fiscal 1984 was a year of increased publicity for the Department. The complete gamut from small newspaper articles to television appearances was covered. Some of the highlights were: a major media event complete with a speech by Governor Dukakis which was held at Long Wharf to publicize our facilities and kick off our "Find Yourself In A State Park" promotion; a major 8 page supplement prepared for the Department by Wallace Floyd Association, Inc. and printed by the Boston Phoenix provided wide publicity for the Boston Harbor Islands (see appendix for cover); and finally a multi colored brochure complete with a state map and listing of all facilities was completed. This colorful 22" x 34" foldout brochure is not only informative but has become a popular wall poster.

ADVISORY COMMITTEES

The Departments successful cooperation with advisory committees has encouraged us to form two new ones and resurrect one which while originally very valuable has lain relatively dormant for several years.

A new committee was formed at 470 acre Ashland State Park in Ashland, Massachusetts. Major development and expansion of the day use facilities is planned in this vandalism prone area. The new committee should prove invaluable in the planning and development process. Hopefully with their cooperation vandalism will be reduced greatly.

The acquisition of 43 acre Camp Monomoy Inc. located on Cape Cod Bay near Nickerson State Park in Brewster was the impetus for the founding of our second new advisory group. Plans for the purchase of additional lands in this area combined with development of a salt water beach and other facilities made it important to have local input and an exchange of ideas.

In past years the Statewide Trails Advisory Committee and associated regional Trails committees provide valuable input. As time passed major problems were resolved and interest waned to the point where many of the committees were completely inactive. The possibility of major acquisitions of abandoned railroad rights of way has resulted in a renewed interest in trails by all concerned. Consequently the Director reestablished the Statewide Committee and all regions are resurrecting their individual committees.

WACHUSETTS SKI AREA DEVELOPMENT

The cooperative venture of developing a quality ski area on Department of Environmental lands with private funds is a continuing story of success.

Fiscal Year 1984 witnessed substantial changes at Wachusett Mountain State Reservation both in terms of development and public useage. In the fall of 1983, Phase II of the ski area expansion was completed with the addition of 3 new ski trails adding 14 acres of skiable terrain (94 acres of operational ski trails to date) and the long awaited opening of a double chair lift to the summit. The lift was completed in time to provide aerial foliage tours of the mountain.

Public acceptance of this unique facility became dramatically apparent over Columbus Day weekend, with the Reservation recording an attendance of 38,000, exceeding last years useage figure by approximately 18,000. Additionally, the ski lodge restaurant began operation in August 1983 and operated successfully until the winter season at which time the restaurant changed to a cafeterial style operation to better handle the increased demand.

With the successful completion of Phase II of the ski area expansion, the Department, with the approval of the Reservation's Advisory Council and Monitoring Board, began the final phase of ski area development (Phase IIB) in June 1984, with ground breaking on trail #8. Completion of ski area expansion is expected to be realized in the fall of FY 85.

More than 500,000 Reservation visitors were recorded in FY 84 of which, approximately 2,309,000 were ski area patrons. Gross ski area income was \$3,700,000 generating some \$76,000 in permit fees collected by the Department as a percentage of gross revenues.

LIFEGUARDS

Due to a new statute, and specific notification by the Department of Public Health, all lifeguards for the Commonwealth were required to be qualified "First Responders". Since no agency offered such certification the Bureau of Recreation instituted a program to provide training and qualify some 500 lifeguards.

In spite of these stringent new certification requirements, this Bureau was able to staff sites in our usual manner. All involved with this process are to be commended for their efforts.

SIGNAGE OF DEPARTMENT OF ENVIRONMENTAL MANAGEMENT FACILITIES

1984 saw the basic completion of the project to have "lead-in" signs, erected at key locations. This project will improve the public's ability to locate our facilities.

In addition informational signs at all facilities have been brought into compliance with the Department's graphics manual.

NEW PROGRAMS

The Massachusetts Division of Forests and Parks Junior Ranger Program was conceived and instituted in FY 1984. This program is designed as a fun way for 10-14 year olds to get acquainted with the Massachusetts Forests and Parks system. Participants become actively involved in the management of the state's natural and cultural resources, and learned a variety of skills related to working and recreating in the outdoors.*

This program while enriching the participants also serves the long range purposes of encouraging additional use of our facilities and retarding vandalism.

*See Appendix for a brochure on this program.

Log Cabin

During the great depression the Civilian Conservation Corps (CCC) constructed many log cabins throughout the Commonwealth. Today only a few of these rustic cabins remain. The Department is in the process of adding new cabins to augment existing structures. Region Four is

currently constructing a log cabin at Mohawk Trail State Forest in Charlemont with completion expected in August 1984. The trees were cut by Department personnel from standing timber at Mohawk, sawed into dimension stock with the sawmill located at the Warwick Forestry Camp and with final construction being done by skilled department personnel. We now know how the CCC kept so many young men busy.

Alternative Uses

Several discussions regarding uses of certain properties for other than traditional activities are underway. While no final decision or agreements have been made the Department may well be providing areas for such activities as Youth Hostels, a summer camp for handicapped children, and a campground for horseback riders.

RINKS

As stated earlier in this report, skating arenas enjoyed increased patronage during the FY 1984. Total attendance at the public skating sessions indicated a resurgence in the popularity of this activity. Rental hours increased as new interest was developed in such varied areas of use as, precision skating teams, broomball, and skating for the handicapped.

Energy Conservation

In addition to the heat regeneration system in place at all arenas in 1983, this Fiscal Year saw all load shedding computer terminals go on line. Each site is accessible to the Boston Office Terminal which provides information in regards to mechanical use of compressors and heating units at any rink statewide. Atmospheric temperatures both inside and outside each facility along with ice temperatures are

available to determine use and control change. This has resulted in Killowatt hour use being reduced, but unfortunately, energy expenditures have increased due to cost factors. Funding for this program were of a matching nature in cooperation with the Federal Land and Water Fund.

Off-Season Program and Special Use

Continued efforts toward off-season utilization of rink facilities were more fruitful this year. A history of various activities which utilized our buildings is in the Appendix.

POOLS

Pool facilities remained popular recreational sites. Numerous public service agencies are now providing urban youngsters with recreational opportunity at these locations. Bureau pools also provide facilities for swim teams, diving teams, and toddlers learn-to-swim programs. Over 2,500 children qualified in Red Cross beginners and intermediate classifications at our pools in FY 84.

INTERPRETIVE SERVICES

During the summer of FY 1984, interpretors provided educational activities and programming in 25 parks in Massachusetts. Activities included guided hikes, campfire talks, movies, and slide shows. This was the first year of interpretive programs at South Cape Beach, Washburn Island, Great Brook Farm, Wells, and Mohawk Trail State Parks. From August sixth to the thirteen, special festival events were held in each of the 25 parks. Interpretors provided park programming year round at Holyoke Range, Walden Pond, Great Brook Farm, Lowell Heritage, and Salisbury Beach.

Manager interpreters for the Boston Harbor Islands and seasonal interpreter positions for other areas were recruited and hired for the summer of 1984. All interpretive staff was trained, in cooperation with the National Park Service, and the Appalachian Mountain Club at the Cape Cod Sea Camps in Brewster, from June 5-6. Additional specific training for Harbor Islands staff was held June 7-12, and for Plymouth Rock staff on June 8th. Park Supervisors and regional staff attended training from June 5-6.

The audience for interpretive programs was significantly increased during FY 84 with the opening of Holyoke Heritage Park and Pilgrim Memorial State Park at Plymouth Rock. Visitors Services staff in Holyoke, Fall River, Gardner, and Lawrence were hired and programming began in Holyoke. Six interpreters were hired and trained to work at Plymouth Rock, where they inform visitors about the significance of Plymouth Rock and provided several tours daily of the park site and its historic surrounds.*

* See Appendix for programs and attendance.

A new brochure was completed for Plum Island on the subject of tide pool life, and brochures for Walden Pond, Plum Island, and Boston Harbor Islands were updated and reprinted.

Both management and staff at Department of Environmental Management facilities throughout the Commonwealth continue to show support for Interpretive Services. An amphitheater was built at Mohawk State Forest, and a meeting site at Wells State Park was developed. Supervisors and Conservation Helpers have been helpful in publicizing seasonal programs, and often assist with them.

ANNUAL REPORT

FISCAL YEAR 1984

BUREAU OF FOREST DEVELOPMENT

THOMAS F. QUINK, CHIEF FORESTER

INTRODUCTION

"Regulations, like rain, fall on whoever is in the area," says Lester DeCoster, Vice President of the American Forest Institute that manages the American Tree Farm System. "We can't stop the rain, but we can become more involved and informed."

In Fiscal 1984, the Massachusetts Forestry Community was doused with regulations and information regarding the newly amended Forest Cutting Practices Act. But this drenching was their choice to the only other alternative -- fighting off floods of local ordinances or bylaws that could erode the primary forest industry of the Bay State. Furthermore, the Act became the opportunity to inform and educate others, as well as to make assurances and accept controls that will give society the protection it requires and still allow individuals to own land and continue to grow trees as a crop, particularly in an urbanized state such as ours. And, it imparted a new initiative and direction to the Bureau's Service Forestry Program.

BUDGET

The consolidated, three-bureau budget account (2120-1100), titled "Forest Management and Development", is working well. The cooperation of the three Bureau Chiefs in fiscal matters has effectively utilized the flexibility of this budgetary arrangement.

The Bureau of Forest Development's budget held steady in 1984. Including inflation, there were no major increases. The budget totalled to nearly \$1.03 million. A generous 15 subsidiary allowed for the purchase of needed forestry

equipment and a Chevrolet S-10 pickup truck for the assistant to the Mid-State Management Forester.

Federal grants and reimbursements continued to dwindle. This decline is most dramatic in the Rural Forestry Assistance Program which services private woodland owners. The Reagan Administration, listening to large organized forest industries who own and control huge tracts of forests, has slashed at these particular funds during the past few years. Forest Resources Planning monies were diminished also. The outlook is bleak for state and private forestry at the federal level.

The Northeastern Area Association of State Foresters (NAASF) will be proposing a solution to this federal fiscal dilemma at their annual meeting in early July 1984. NAASF plans to pass a resolution to be submitted to the National Association (NASF), that would raise monies annually (about \$300 million) by levying a 5% tax on all products manufactured totally or partially from wood. The intent is to fund all existing State & Private Forestry Programs plus cost-share programs such as ACP, FIP, etc. It is anticipated that this proposal will be a major thrust of NAASF and NASF during federal FY 1985.

PERSONNEL

FY 1984 saw several changes/shifts in personnel, due to resignations, retirements, transfers, etc.

One major shift was the exchange of forester duties between Joanne Nunes and Carmine Angeloni. Joanne is now working the Western Connecticut Valley Management Forester position; Carmine, the position of Hampshire County Service Forester.

Michelle Plourde, Forest Products Marketing and Utilization Assistant resigned to accept an administrative position at the Tufts Medical School. David Fraser, a graduate U. Mass. forester who had been filling a "clerk" position in Region 4, replaced Michelle Plourde. Dave brought with him writing and artistic skills to the FPM&U position and experience with our varied service

forestry programs.

Karen Healey, also a clerk in Region 4, was upgraded to fill behind Fraser to mainly handle the forestry paperwork -- Cutting Plans, Chapter 61 plans and notices, timber sales, etc.

A newly certified Civil Service list for the position of "Forest & Park Supervisor" resulted in Bruce Colburn bumping John Tiffany, assistant to the Central Berkshire Management Forester. Somewhat later, Colburn transferred to a recreation F&P position and this forestry vacancy was filled by Arthur Tanguay who has "temporary after certification" status.

Irene Bodah, a long time clerk in Region 3, retired and Joseph Ochab, assistant to the Forest Resources Planner, resigned to take a position with D.E.M.'s G.O.A.L.S. program in the Office of Planning and Development.

Bureau Secretary, Rose DiSabatino, requested a reallocation of her position, Senior Clerk & Stenographer (Grade 8) to Head Clerk (Grade 12). As a result of a DPA hearing, Rose was granted an upgrading to Principal Clerk (Grade 10). This decision is being appealed to the Civil Service Commission.

The approved FY 85 budget included the Forest Resources Planner position as an 02 state funded position. Muriel More currently holds this position on an 02 Federal basis and with depleting federal funding, it is a relief to know that her services will continue to be available on a state-funded basis. This position is responsible for overall forestry planning for the Commonwealth including over 265,000 acres managed by the Division of Forests and Parks. The Commonwealth has been criticized in the past years for not having a comprehensive forest resources planning program. This position is playing a key role in developing overall Management Plans (GOALS Program) for the state's 95 forested facilities managed by the Division of Forests and Parks. Data generated by this planning program has been important in maintaining and attracting the forest products industry in the Commonwealth.

PRIVATE LAND MANAGEMENTSERVICE FORESTRY

The Bureau of Forest Development employs 13 state service foresters who provide marketing and technical assistance to the Commonwealth's private woodland owners and primary forest industries. In Massachusetts eighty-seven percent of the commercial forest land is in private ownership. Service foresters administer the Forest Taxation Law (Chapter 61), which provides for a preferential property tax classification on forestland under management. They are also directly involved in approving and regulating harvesting operations on private forestlands, as governed by the Forest Cutting Practices Law (Chapter 132, s. 40-46). Additional duties include administering the American Forest Institute's Tree Farm program at the state level; assisting Christmas Tree growers; conducting informational workshops for loggers, landowners, consulting foresters and municipal officials; and attending conferences, workshops and meetings relevant to forestry issues.

As a result of the increased workload in administering the Forest Taxation Program and the Cutting Practices Law, it has been necessary to establish a Service Foresters' Program Review Committee. The committee has met several times during the past year attempting to evaluate the service forestry program in Massachusetts and to assign priority to the various projects, programs and responsibilities that come under service forestry. Chaired by James Soper, Service Forester in Region 4, other members of the committee are Laura Dooley, Region 1; Jack Jackson, Region 2; Richard Johnson, Region 3; and Robert Lear, Region 5.

FOREST TAX LAW/FARMLAND ASSESSMENT

Chapter 61, the Forest Taxation Law, continued to be a popular and viable option for landowners to maintain their forestland under management and stewardship, while being eligible for preferential property tax status. Since

the amended Chapter 61 law became effective in the Spring of 1982, applications have significantly increased during the past two years. During FY 84, about 675 applications/management plans were approved, representing about 42,500 acres to be classified as forestland. Region 4 continued to have the highest proportion of cases, with almost 50% of all management plans being submitted in that tri-county area. Sixty percent of the plans submitted statewide were renewals for classification under the new ten-year system as the plans were approaching expiration under the previous five-year system.

Although the statistics for the number of plans and amount of acreage in the Chapter 61 program are significant, a concern did arise among service foresters and other people in the forestry community that increasing numbers of landowners were deciding to classify their woodlands under Chapter 61A or 61B. This may have been prompted by a court decision last year in the town of Reading stating that a landowner with forestland classified under 61A was not required to have a management plan for that land. Considering that the requirements for land classified under Chapter 61B are relatively lenient, both of these situations could allow for indiscriminate cutting on classified forestland and possibly undermine the Chapter 61 program.

Early in 1984, State Representative Jonathan Healey filed legislation to address concerns and loopholes with Chapters 61A and 61B. Members of the forestry community met with Representative Healey in February to discuss the problems and possible solutions.

Another amendment to Chapter 61A became effective in March requiring municipal assessors to use a list of land value ranges for various categories of agricultural land, as determined by the Farmland Valuation Advisory Commission.

The Director and the Chief Forester of the Division of Forests and Parks met with the Commissioners of the Dept. of Food & Agriculture and the Dept. of Revenue during the Spring to address the existence of some loopholes in Chapter

61A and 61B. DEM would like the Dept. of Revenue to be more specific in defining "natural" and "wild" woodland. In other words, forestland subject to management activities such as boundary maintenance, road-building and logging operations should be considered as commercial forestland and thus be ineligible for Chapter 61B. Dept. of Agriculture's administration of Chapter 61A should define the word "trees" to be limited to non-forest trees or nursery stock and therefore exclude land where forest products can be obtained. At this time, these issues have not been legislatively resolved but the three Departments have agreed to resolve them through Departmental directives. This should discourage landowners from shopping around for the cheapest method of taxation, and thereby uphold the public purpose towards which these laws are directed.

FOREST CUTTING PRACTICES LAW

During 1983 an eight-member State Forestry Committee appointed by the Governor developed discussion drafts for the rules and regulations of Chapter 132, s. 40-46. The Director of the Division of Forests and Parks also formed an Advisory Committee representing several forestry and conservation interests and chaired by the Chief Forester, to help develop appropriate forest cutting practices. The State Forestry Committee, chaired by Dr. Ernest Gould, Forest Economist with the Harvard Forest, met frequently with the Advisory Committee to listen to discussions and understand points of view. Discussion drafts of the regulations were developed by the State Forestry Committee which were then critically reviewed by the Advisory Committee and through them by their respective associations.

The discussion drafts were circulated at several informal and formal public hearings and from written comments received, a final draft was eventually prepared, approved by the Commissioner of Environmental Management and promulgated on January 1, 1984 as regulations by the Director.

It is worth noting that more than ten discussion drafts were written to finally develop the regulations for promulgation. Dr. Gould, Chairman of the State Forestry Committee deserves special credit and thanks for drafting the regulations as he was the prime force in this effort. Gordon Graham, D.E.M. Counsel, also assisted with the legal aspects and wording of the regulations.

The new regulations were introduced to D.E.M. foresters and fire personnel at two training sessions in December and January. Prior to this, the state service foresters had provided input to the State Forestry Committee on the proposed regulations and had developed new cutting plan documents, policy guidelines and procedures for the proper filing and processing of cutting plans.

By February 1, 1984 the new cutting plan forms were in use, and on that date the new regulations were publicly presented at a meeting of the Massachusetts Association of Professional Foresters (MAPF). Following that, each D.E.M. region conducted at least two Saturday workshops for persons in the forest industries. Copies of the regulations were posted by D.E.M. forestry and fire personnel in each city and town hall throughout the Commonwealth. In April and May, workshops were held by state service foresters for landowners and municipal Conservation Commissions.

In March, a Memorandum of Understanding was issued by DEM and DEQE which clearly defined jurisdiction of forest cutting in wetland areas. For the most part, municipal Conservation Commissions have been cooperative.

Several Bureau Personnel were involved in public speaking about the newly amended law and regulations at various meetings and conferences. Thomas Quink, Chief Forester, moderated a panel which included a talk by Dr. Ernest Gould at the New England SAF Annual Meeting in Worcester; Michael Parker, Hampden County Service Forester, spoke at the Northeastern Loggers Congress and Exposition in West Springfield and at an Empire State Forest Products Association meeting in Albany, N.Y.; and Joseph Smith, North Worcester County Service Forester and Statewide Ch. 132 Coordinator gave a talk at the CFM Supervisors Conference in Atlantic City, N.J.

With the new rules and regulations, cooperation has been good in most cases, but absent in others. Many loggers seem to be claiming that their harvests are under 25 MBF or 50 cords, thus exempting them from the law and therefore much time would be required to prove them wrong. One sawmill owner reported that he scaled approximately 42 M.B.F. under this guise and suggested that the exemption should be totally eliminated or reduced to 10 M.B.F. or 20 cords.

Regions 3 and 4 have been the busiest areas, and both have stated a need for more personnel to administer and enforce the law. For the most part, fire personnel have assisted in enforcing cutting practices. The State Forestry Committee and Mass. Wood Producers Association plan to conduct an evaluation to determine if the law is being conducted uniformly statewide.

An F.C.P. Clarifier was begun in May primarily for in-house use and will be issued periodically. The intent of this question and answer pamphlet is to explain points not clearly addressed in the Forest Cutting Practices Law and Regulations, and to utilize these explanations as the Division's standard operating procedures.

During fiscal 1984, over 1,059 cutting plans were filed and approved, representing over 85,541 MBF and 82,867 cords to be harvested on 41,761 acres of privately-owned forestland throughout the state.

CUTTING PRACTICES

The Chief Forester and the staff of Bureau Foresters are authorized as agents of the Director to administer and enforce the Massachusetts Forest Cutting Practices Law (M.G.L. Chapter 132, sections 40-46). The Bureau's Boston Office secretary has the statewide responsibility of collecting, recording and filing all pertinent materials applicable to this law.

Statistics and summary of timber harvesting operations pursuant to Chapter 132 during FY 1984 is as follows:

County	# Cutting Plans	Stumpage (MBF)	Stumpage (CORDS)	Acres
Bristol	26	3,900	2,080	1,040
Plymouth & Cape	47	2,273	2,940	1,130
Norfolk	18	328	390	170
Essex	16	816	1,260	355
Middlesex	70	3,752	2,539	1,388
No. Worcester	147	10,899	8,069	5,145
So. Worcester	137	9,551	12,713	4,640
E. Franklin/Hampshire	135	12,478	17,742	5,800
W. Franklin/Hampshire	112	8,988	11,197	4,368
Hampshire	85	7,303	6,358	3,628
Hampden	91	8,000	6,000	4,463
N. Berkshire	105	7,737	7,489	6,353
S. Berkshire	70	9,516	4,090	3,281
TOTALS	1,059	85,541	82,867	41,761

Notices of Intent (#)	623
Cutting Plans (#)	1,059
Final Reports (#)	4
Harvesting Licenses (#)	648
- In - State Loggers	563
- Out-of-State Loggers	85

PRIVATE CONSULTING FORESTERS

During FY 1984 there were 941 landowner requests for forestry assistance referred to private consulting foresters. The most common requests were for having a forester write management plans for private woodland under the Chapter 61 program; and for writing cutting plans for logging operations as required by the Forest Cutting Practices Law, henceforth referred to as Ch. 132. Currently, about 140 private consulting foresters do business in Massachusetts (up from about 120 in 1982-83) providing a wide range of forestry services. Each state service forester maintains a list of consulting foresters operating in his/her district. The Boston Office of the Bureau also maintains a statewide list that is updated periodically.

HARVESTING LICENSES

Section 46 of Chapter 132 requires that a person, firm or corporation harvesting timber or other forest products for hire or profit and not exempted by section 44 must initially obtain a harvester's license from the Division of Forests and Parks. The number of licenses sold for FY 84 amounted to 648; of which 85 were out-of-state licenses and 563 for in-state timber harvesters. Because licenses are sold prior to the beginning of the fiscal year, revenues from these sales reflect those FY 84 and 85 licenses sold between July 1, 1983 and June 30, 1984. The Bureau Secretary, Rose DiSabatino, has major administrative responsibility for this program and is authorized, along with the Chief Forester and FPM&U Specialist, to issue harvesting licenses for the Director.

The majority of licensed loggers are from the counties of Worcester, Berkshire, Hampshire, Franklin, and Hampden. The number of licensed loggers represents an appreciable increase from the previous fiscal year's 515 loggers. More enforcement, better education of the law and a general belief among the forestry community that the newly amended law will work have literally brought loggers "out of the woodwork". In addition, the new cutting plans must indicate the logger's license number, and questionnaires have been developed for inclusion with FY 1985 harvesting license applications to prove that loggers are familiar with the laws relating to cutting in Massachusetts.

FEDERAL FORESTRY PROGRAMS

Funding through the Agricultural Conservation Program (ACP) is generally used for forestry practices on industrial or municipal lands, private ownerships larger than 1,000 acres or on lands which do not otherwise qualify for cost-sharing under the Forestry Incentives Program (FIP). Very little reforestation (excluding Christmas tree production) was applied for cost-sharing (8 acres), however 15 acres for planting were signed up for a long-term agreement (LTA). For tree stand improvement, 276 acres applied for an LTA, representing 73% of

all TSI work in the New England states. Another 433 acres signed up for regular ACP funding. No applications were received for Site Preparation for Natural Regeneration. For installing access roads to harvest fuelwood, 1,125 acres were served under regular ACP, and another 180 acres served under LTA funding. For fuelwood thinning, Massachusetts led all New England states with over 2,700 acres applied for funding. Considering the relatively small area of commercial forestland and average woodlot size, as compared with the northern New England states, Massachusetts ACP figures indicate significant management activity.

For the FIP program, funding for Massachusetts decreased 12% to \$129,884, yet the number of referrals issued decreased by only 5%. A significant comparison is the 43% decrease in acres completed from the previous fiscal year. Total TSI accomplishments on acres decreased by 33%. This may be a result of the relatively high fuelwood market competition in Massachusetts as compared to some other northeastern states. Another contributing factor may have been the confusion over FIP regulations concerning TSI in hardwood stands. Totals for federal FY 1983 are as follows: No. of cases - 118; No. of acres - 894; dollars - \$33,492; dollars/acre - \$37; acres/case - 8; referrals issued - 153.

James Soper, Service Forester for Eastern Franklin County, has statewide duties as Financial Forester. This responsibility included preparation of grant applications for federal forestry programs to include RFA, UFA, FIP, ACP, FTI and Planning; preparation of vouchers, and compilation of support data to justify program expenditures for audit purposes. Additionally, support data had to be prepared for the Executive Office of Administration and Finance to obtain approval of grant applications. Bureau Secretary Rose DiSabatino keeps time-mileage records and Forester Charles Perna prepares quarterly accomplishment reports necessary for federal grants and reimbursements.

INFORMATIONAL PROGRAMS

With the rules and regulations of the recently amended Forest Cutting Practices Law having become effective, service foresters were busy attending

meetings to acquaint themselves with how to administer the law and subsequently conducting workshops to inform the general public. Training sessions were given to private woodland owners, consulting foresters, loggers, fire personnel, municipal conservation commissions and other interested persons. Several foresters also conducted Arbor Day and Career Day programs at elementary schools. A few other foresters had meetings with municipal officials in several towns that have their own forestry by-laws to resolve any possible conflicts in administering the statewide cutting practices law.

Most of the Bureau attended the New England Society of American Foresters Winter Conference in Worcester, at which the Chief Forester chaired a panel on forest regulations. Foresters were active in attending workshops and seminars on topics such as wildlife management, erosion control on logging roads, insects and tree pests, tree improvement, Christmas Trees, hemlock management, seeding of landings and skidroads, and search/rescue training. Most D.E.M. foresters attended the Southern New England Christmas Tree Growers Conference in Springfield. Bureau Secretary Rose DiSabatino handled the registration desk. Several foresters also attended the Northeastern Loggers Congress and Exposition in West Springfield.

Bureau foresters met with the Cooperative Extension Service to discuss their involvement and cooperation in producing and distributing forestry publications to the public.

LANDOWNER ASSOCIATION

The Massachusetts Land League, which promotes wise use of land and natural resources, held several informational meetings for landowners on the new Forest Cutting Practices regulations. They were conducted in Pepperell, Concord, Leicester and Pittsfield.

The Land League co-sponsored with D.E.M., the Cooperative Extension Service and the Tree Farm Committee the "Woodland Dollars and Sense" workshop for private woodland owners. The Massachusetts workshop was held in Sturbridge and coordinated by Thomas Quink, Chief Forester of D.E.M. and H. Peter Wood of the Extension Service. Foresters Robert McLean and Gerald Veale participated as panelists and the Bureau Secretary handled the registration. The "Woodland Dollars and Sense" workshop attempts to inform private landowners of the importance and value of their woodlots. With the success of this workshop in recent years, it is now being held in other New England states.

TREE FARM PROGRAM

Tree Farms are woodlands of ten or more acres, usually privately owned, managed for timber production and protected from insects, disease and fire. There are now approximately 1,200 Tree Farms in Massachusetts comprising at least 318,000 acres, making it the second-ranked state in New England. During FY 84, about 200 Tree Farms were inspected by foresters, representing about 80% of the quota established by the American Forest Institute (A.F.I.). The Mass. Tree Farm Committee received \$1,000 grant money which is used to help finance Tree Farm booth exhibits at the Eastern States Exposition (The Big E) in West Springfield and at the Topsfield Fair. In addition, the Committee receives \$5 for each inspection.

At the annual Tree Farm meeting and banquet in February, Jack Jackson, Service Forester in Essex County, was chosen as Outstanding Tree Farm Inspector of 1983 along with two private consulting foresters. As Secretary to the Committee, Jack has been very active in Tree Farm activities, attending various meetings, setting up training sessions such as the Wildlife Management Workshop, and manning the booth at the Topsfield Fair.

Other DEM foresters on the Committee are Richard Kulis and Gerry Veale. Richard was instrumental in initiating a computerized re-inspection system for

Tree Farms. Both foresters along with several others manned the Tree Farm booth at "The Big E" which featured a working model exhibit of logging activities on watershed land.

A large old red oak tree was discovered in the town of Buckland which subsequently was chosen as a co-champion with another red oak in Michigan as the largest trees of that species in the U.S.

The state's Outstanding Tree Farm of 1984 went to Mrs. Marilyn Stuart of Granby, for her 1,170-acre woodland in Granby and Ludlow. She will be awarded during the Tree Farm Banquet at The Big E in September.

CHRISTMAS TREES

With the current popularity of "choosing and cutting" one's own Christmas tree coupled with the demand for exotic species other than the traditional balsam fir and white spruce, Christmas tree growers have become an important sector of the Commonwealth's forest landowners. The Bureau of Forest Development assists the Massachusetts Christmas Tree Association (MCTA) through marketing publicity, technical information and advice.

An annual list of Christmas tree dealers is prepared by Richard Johnson, Statewide Christmas Tree Program Coordinator and made available to the public. Johnson, along with Jack Jackson, Robert Lear and James MacArthur provide, through the generosity of MCTA members, Christmas trees to the State House each year. Jack Jackson was featured on TV Channel 56 giving advice on the care of Christmas trees, especially in the home. In addition, foresters Johnson and Jackson had moderator and audio-visual roles respectively at the Southern New England Christmas Tree Growers Conference which drew about 605 attendees from more than a dozen northeastern states plus Quebec and Nova Scotia, and 22 exhibitors. The Conference, which has one-half the attendance of the National Christmas Tree Convention, was developed by Extension Specialist H. P. Wood and Chief Forester T. Quink, who continue to play key roles in planning and arranging the biennial program.

MAPLE PRODUCTS

Meetings of maple producers in July 1983 and January 1984 were attended by several service foresters. This past winter was considered as fair for the maple products industry with perhaps the weather to blame. A mild February followed by a cold and stormy March resulted in sporadic maple sap flow and production. Approximately 40,000 gallons of maple sap were produced in Massachusetts.

SPECIAL PROJECTS

Carmine Angeloni, service forester for Hampshire County and Gerry Veale, RC&D Forester have been part of a 24-member advisory committee to the Hilltown Community Development Corporation (HCDC), which is developing a wood industry proposal. The purpose of the HCDC project proposal is to stimulate the economy in the hilltowns of western Hampshire County by installing a plant that would produce semi-finished wood products, thereby creating some "value-added" and more stable jobs to these rural, highly forested communities. One likely product to be manufactured is furniture blanks from low-quality hardwoods utilizing the System 6 process.

Mike Parker, service forester for Hampden County, has been overseeing management activities on municipal watershed lands belonging to Springfield, West Springfield, Holyoke, Westfield and Palmer. The towns of Chester and Russell are also formulating plans to conduct timber sales soon. Mike has also evaluated 1,600 acres of forestland on Mt. Tom, which is owned by the counties of Hampshire and Hampden, and has inspected logging operations on this recreational area.

D.E.M. STATE LANDS MANAGEMENTPROGRAM SUMMARY

FY 1984 was the first complete year for having eight management forester teams. They are responsible for the planning, implementation and supervision of forest management and forest products harvesting on more than 265,000 acres of D.E.M.-owned forests, parks and reservations.

Early in the fiscal year, attainable harvest figures were established by the Bureau for each management district. Because of land ownership patterns and the extent of forestland, much of this volume arises from the western part of the state. In terms of the volume of timber to be harvested through timber sales to logging companies, management foresters came very close to reaching the volume target and actually surpassed the target set for contracted timber and fuelwood sales revenue. Total amounts of timber sold were 5,550.24 MBF of sawtimber stumpage and 8,220 cords of fuelwood stumpage, generating \$642,175 in revenue for the General Fund.

There are three basic types of timber sales marked and administered by management foresters: commercial sawtimber (board foot) sales, some of which are combinations of board foot and cordwood stumpage; commercial fuelwood sales of cordwood and low-quality wood; and Home Fuelwood sales in which the public at large can bid and participate in harvesting the wood.

The management teams comprise a total of eight management foresters and nine assistants (Forest and Parks Supervisors). In addition, the Bureau bids out on a contractual "03" basis, forestry work in each of the management districts to consulting foresters. Their duties include boundary maintenance, marking timber sales, mapwork, layout of logging roads and landings, and any special projects that may arise.

Besides administering timber sales and improvement cuttings on state forestlands, a high priority of management foresters is their involvement in the G.O.A.L.S. Program initiated in 1983. This Guidelines for Operations And Land Stewardship is a process of land stewardship zoning for long-term management of state parks and forests.

MANAGEMENT PLANNING

In 1983, DEM personnel consisting of foresters, landscape architects and planners began developing G.O.A.L.S. for several forests and parks. These Guidelines for Operations And Land Stewardship, in the form of management plans, will spell out the objectives for the management, expansion, use, and protection of our parks and forests. At least one DEM-owned property in each region and in need of direction and planning has been chosen for the first round of developing GOALS. The management foresters, whose districts include those particular properties, have been involved as key individuals in the planning process. Their input to date included the completion of thorough stand analyses of on-the-ground resources, ten-year recommendations for management objectives, and outlining of silvicultural treatments to be accomplished.

Foresters and state properties involved in this program are as follows: Austin Mason - Myles Standish State Forest; Darrell Keay - Harold Parker State Forest; Paul Hannon - Mt. Wachusett State Reservation; William Rivers - Wendell State Forest and Holyoke Range State Park; and Michael Fleming - Mt. Greylock State Reservation.

By melding the elements of land stewardship zoning, a theme, issues and opportunities, and action recommendations into a GOALS plan, this cooperative effort between the D.E.M. Office of Planning & Development and the Division of Forests & Parks will become an environmentally sound program for productively managing our state forest and park system. It is hoped that municipalities and private forest-owning organizations will adopt the GOALS system.

COMMERCIAL SAWTIMBER HARVESTING

Management forester teams marked and sold 5,550,240 board feet (5,550.24 MBF) of hardwood and softwood stumpage for sawtimber during FY 84, which generated \$558,495 in revenue. Although very few bids were received for any particular timber sale, every timber sale but one was sold. Prices received for stumpage were slightly higher than the previous year and averaged close to \$100 per MBF on a statewide basis. Several of these timber sales were combinations of sawtimber and fuelwood stumpage. Thus, the above indicated amount of contracted revenue also includes approximately 3,177 cords.

COMMERCIAL FUELWOOD HARVESTING

Because of the extent of low-quality and pole-sized hardwood stumpage in much of the Commonwealth's state forestland, most of the timber sales marked were offered as commercial fuelwood sales. Timber stand improvement is accomplished through these sales by prescribing improvement cuttings and intermediate cutting operations, harvesting poor quality, diseased, deformed and immature trees, thereby allowing more growing space for selected sawtimber crop trees. Eight hundred acres of state forestland are being improved through harvesting for fuelwood, in which 3,903 cords were marked and sold, generating \$55,740.10 in contractual revenue, and averaging about \$14 per cord.

WOOD ENERGY PROGRAMS

The Cut-A-Cord Program, in which individuals are allowed by permit to cut one cord of wood for domestic use, was only offered at Martha's Vineyard State Forest by the Region I Management Forester. Only 30 cords of softwood were cut and sold, yielding \$120.00 in revenue.

A more efficient program to administer is the Home Fuelwood Program, which was offered on state forestland in all eight management districts. In this program, the public can bid on lots containing anywhere from 2 to 20 cords, and then cut and remove the marked trees for domestic fuelwood use. The purpose of

this program is to assist homeowners who are committed to using wood as their primary source of fuel. It is also a way to have timber stand improvement done in stands of poor quality or diseased trees. The minimum acceptable bid is \$10 per cord. During FY 84, fuelwood in the amount of 1,140 cords (equivalent to 229,050 gallons of fuel oil) was sold and harvested from approximately 284 acres, yielding \$27,940.03 in revenue.

FOREST PRODUCTS SALES

For the harvesting of forest products from state lands, 106 contracts were established with logging firms or individual persons for removal of specified sawtimber and fuelwood stumpage. These consisted of 48 commercial sawtimber sales, 40 commercial fuelwood sales, and 18 home fuelwood sales, all of which have been mentioned in more detail in the preceding three sections of this report.

Timber sales on state lands are announced to the general public by mailing out a prospectus (first page of the contract) to anywhere from 30 to 75 or more licensed timber harvesters known to do business in a management forester's district, and by publishing Legal Notices in major newspapers covering that particular area. Although nearly all timber sales do obtain a contractor for the harvesting of forest products, there is concern about such few bids (usually 1 to 4 bids) being submitted for any particular timber sale. Considering the high cost of advertising via a Legal Notice and the mailing costs and effort involved in distributing the prospectuses to timber harvesters, perhaps a more efficient and cost-effective system can be developed for handling this aspect of forest products sales.

BOUNDARY MAINTENANCE

With the many parcels of land comprising the state-owned Forests and Parks system, there are over 1,500 miles of boundaries, which should be inspected and re-marked at least once every ten years. During the 1984 fiscal year, 49 miles

of boundaries were re-established, with much of this in the Central and Southern Berkshire Management Districts. Reflective markers made of aluminum and manufactured by the Massachusetts Correctional Industries are now being used to indicate boundaries.

SPECIAL PROJECTS

In the Southeastern Management District, inter-agency involvement took the form of a timber sale in the Rocky Gutter Wildlife Management Area in Middleboro, owned by the Massachusetts Division of Fisheries and Wildlife. Stumpage in the amount of 64.3 MBF and 65 cords on 28 acres was sold, realizing \$9,000.00 in revenue for the Division of Fisheries and Wildlife. Austin Mason, Management Forester for Region I, also participated with the U.S. Forest Service on experimental plantings at Myles Standish State Forest.

The Mid-State (Region III) management team cooperated with the U.S. Forest Service in the establishment and remeasurement of permanent plots in the Upton State Forest for monitoring the impact of the gypsy moth.

In Region IV, the Eastern Connecticut Valley management team marked timber for the Warwick Forestry Camp/Prison Industries. William Rivers, the management forester, gave a lecture at the Cooperative Extension Service's Hardwood Lumber Grading Workshop on Timber Management and Lumber Quality.

Out in Region V, the North Berkshire Management forester met with the RC&D Forester and the Bureau of Insect Pest Control to set up a U.S.D.A. Insect Workshop.

Austin Mason, Southeastern Management Forester and Bruce Anderson, Central Berkshire Management Forester took part in obtaining a "Whispering Giant" statue along with members of the Mass. Wood Producers Association early in FY 84. Discovered by Bruce Anderson in October Mountain State Forest, the large northern red oak tree was cut into a 40 foot log and transported to southeastern

Massachusetts where it was to be sculptured by Peter Toth. The "Whispering Giant" - a large wood statue of an American Indian - has been sculptured by Mr. Toth for 43 other states and is always displayed in a popular public site for residents and travellers to view. The Massachusetts "Whispering Giant" will be placed in Plymouth.

FOREST PRODUCTS MARKETING AND UTILIZATION

The entire Commonwealth - through increased business, higher employment, a more stable tax base and wiser use of forestland resources - shares in the benefits that the Forest Products Marketing and Utilization (FPM&U) Program has to offer. The Massachusetts FPM&U Program plays an integral role in the development of industry and small business within the Commonwealth due to its involvement in the various stages of wood processing from the stump to the finished product. Direct beneficiaries of this program are woodland owners, loggers, wood processors and their employees. Alternative fuel industries and persons who supplement their energy needs with cordwood, wood chips or pellets also benefit.

The FPM&U Program assists forest landowners and wood processors through technical services and advice on all phases of the harvesting, processing and marketing of forest products. Increased utilization of wood and maximized efficiency in the manufacturing process are two key objectives of the program.

D.E.M. LANDS

The administration of forest products sales from forestland owned by the Department of Environmental Management is one of the responsibilities of the FPM&U Program. This includes handling all forest products sales contracts and harvesting licenses, which are compiled and documented by the Bureau's Boston Office Secretary. Timber sales during FY'84 totalled 5,550.24 MBF of sawtimber and 8,220 cords of fuelwood. Refer to the Statelands Management section in this Bureau report for details on related revenues.

PRIVATE WOODLANDS

The Forest Products Marketing and Utilization Program provides marketing information to private woodland owners, and to the wood products industries. During FY'84, woodland owners were directly assisted through the FPM&U Program in marketing approximately 59,730 MBF of timber and 62,490 cords of fuelwood.

The FPM&U Specialist and Assistant provide stumpage price information to mills, loggers, woodland owners, municipal officials and other interested persons through the "Massachusetts Roundwood Stumpage Price List" published three to four times a year. Price ranges for marketable species are compiled for regional county groups, and are based on relative demand, market availability, timber quality and stand accessibility; factors of which can cause prices to vary within the same area.

The Forest Taxation Law contains a clause which requires landowners to report stumpage values for any wood products removed from their property during a two-year period prior to enrolling said property. In order to assist these woodland owners as well as municipal assessors in determining the value of timber harvested, continuous compilation of stumpage price reports has been maintained since 1978 and are available upon request.

INDUSTRY ASSISTANCE

Assistance was given to several private industries and quasi-public organizations in locating new and potential markets for their wood products. During FY 84, 12 primary wood industries and 10 secondary wood industries received such assistance. These efforts resulted in the marketing of nearly 2 million board feet of native lumber. As a result, 13 million cubic feet of wood were saved, allowing the Bureau to surpass the target of thousand cubic feet negotiated with the U.S.D.A. Forest Service's R.F.A. - Resource Utilization Program.

The FPM&U Specialist administers the Improved Wood Utilization Program. During FY 84, this program assisted 2 secondary industries directly, through the use of private wood industry consultants. The program also cost-shared two workshops in Improved Lumber-Drying and Lumber Grading, which better educated employees working in this industry, so that defects would be reduced, thus increasing wood utilization.

TECHNOLOGY TRANSFER

Technology transfer workshops were attended by the Forest Products Marketing and Utilization Specialist and/or his staff during FY 84, in order to better aid industries in improving their operating efficiency and profitability. Workshops included: attendance at two "Export Market Development" seminars; a two-day session on "Industrial Wood Energy Development" and several one-day wood products workshops. The FPM&U staff, in cooperation with the U.S. Forest Service, manned a booth promoting truss-framed building construction at the Northeastern Retail Lumbermen's Association Annual Convention at the Hynes Auditorium in Boston. The Chief Forester and the FPM&U Specialist also attended/participated in the annual meeting of the Northeastern Lumber Manufacturers Association held in Boston.

Workshops are currently being planned and developed for FY 85. These are aimed at educating people in the forest products industry in Massachusetts and will address such topics as: small business management, basic accounting, and sawmill maintenance.

WOOD PRODUCTS TRADE SHOW

On January 25-26, 1984, the Massachusetts Forest Products Marketing and Utilization (FPM&U) Specialist proposed a wood products trade show to the seven-state (six New England States and New York) FPM&U Specialists at their annual meeting, which was unanimously selected as their 1984-1985 Regional Project.

The intent of the trade show is to help expand the markets for small to medium-sized manufacturers of unfinished and semi-finished wood products such as dimension stock, furniture and fixture parts, cabinet stock, handles, millwork, novelty and toy parts and other finished product components. To be held in Boston in the Fall of 1985, the audience for the trade show is expected to comprise wholesalers, retailers, and import/export agents from other areas of the U.S. and from other countries. A variety of workshops on marketing, financing and exporting are also to be conducted at the show.

The trade show should give the wood products industry an opportunity to: learn more about market development, exhibit their products to both national and international buyers, diversify their markets, advance themselves during a sound economy, and stabilize during a recession. It will also be an opportunity for continued cooperation amongst industry, government and professional organizations. The end result would be a better educated industry and potentially a more stabilized industry.

Participating in and conducting this trade show will be:

- 1) Government agencies at both federal and state levels that are involved in regional, national or international market development.
Specifically, representatives of the U.S. Forest Service, Foreign Agricultural Service, U.S. Dept. of Commerce, Small Business Administration, Cooperative Extension Service, Mass. Dept. of Environmental Management and the Mass. Dept. of Commerce.
- 2) Industry - primary and secondary manufacturers of wood products that either have the capacity or the desire to expand their market. Also those industries that would comprise the audience, i.e., retailers, wholesalers and marketing businesses.

- 3) Industry organizations on a state, regional or national level which are willing to promote the trade show to their members, whether they be on the buying or selling side of the market. Specifically, organizations such as the American Forest Institute, Northeastern Lumber Manufacturers Association, Associated Industries of Massachusetts, New England Kiln Drying Association, New England Wholesale Lumber Association, National Association of Furniture Manufacturers and Empire State Forest Products Association.

The U.S. Forest Service has contributed \$5,000.00 to be used as start-up money for the trade show. Additional financial or in-kind commitments will be forthcoming from other federal and state agencies and private industrial organizations.

The first meeting of the planning committee was held in Gardner, Mass. on April 5, 1984. The project was presented to the group and it was well received. The group, however, thought it would be beneficial to canvass the industry to determine the potential interest level. A mail-out questionnaire was developed by the Mass. M&U Specialist which was subsequently sent to the group for distribution among their respective agencies or associations. At this meeting it was also decided to include Pennsylvania, Delaware and New Jersey, making it a ten-state area-wide project.

On June 22, 1984 the planning committee met again and decided, due to a strong level of interest by the industry shown through the questionnaires, to proceed with the trade show. At this meeting an official committee name and trade show name "Northeastern Wood Products Expo Committee" - "NeWPEx '85" were chosen. James MacArthur, FPM&U Specialist was nominated and elected as Chairman of the planning committee. David Fraser, M&U Assistant, designed a logo for the trade show.

At the next meeting on August 15, 1984 a professional convention consultant will have been chosen to be Exposition Manager, steering committees and sub committees will be formed to work with and advise the Expo Manager, and an Action Plan/Time Table will be prepared to begin setting in motion the numerous details of conducting a trade show.

FOREST PRODUCTS WEEK

Governor Dukakis proclaimed the week of October 16-21, 1983 as Massachusetts Forest Products Week to focus attention on the forest products industries and their contribution to the state's economy. About 44,600 people earn their living in jobs relating to the forest industries, producing 6.5% of the state's total industrial payroll and millions of dollars in tax revenues.

Highlighting the Week was a legislative and press tour of the W.D. Cows Lumber Company in North Amherst and the Montgomery Rose Company in Hadley. Officials of DEM, state representatives, members of the Governor's Commission on the Future of Mature Industries and other interested persons attended. Emphasized during a tour of one of Cowl's logging operations was the extent of damage caused by the gypsy moth, especially to red oak trees, and the expensive salvage operations necessary to harvest the timber before it rots. Later in the day, the commercial wood-chip burning facility at Montgomery Rose Greenhouses was viewed. This facility utilizes wood chips obtained from Cows Lumber yard and other sources. The Commissioner of DEM, the Chief Forester and the M&U Specialist spoke that day about the importance of the forest-based industries and the need for wisely managing the forest resource. In addition, a 60-second Public Service Announcement was developed, notifying the general public of Forest Products Week and its importance to the state's economy. The PSA was broadcast on radio stations throughout the state.

DIRECTORIES

David Fraser, M&U Assistant and Gerald Veale, RC&D Forester prepared material for a 1984 edition of the Directory of Commercial Sawmill Operators and Loggers in Massachusetts, to be published in the Fall of 1984. This will supercede the 1980 directory which has become outdated due to the many changes in listing and addresses. The directory will again feature a listing of sawmills by county, with columns of production information, followed by a listing of licensed timber harvesters in each county. An alphabetical list of consulting foresters doing business in the Commonwealth is also included, along with information on the forest products industry in Massachusetts, making this "Directory of Primary Wood Producers" useful to foresters, wood producers and private landowners alike. The directory is being typeset on a word processor in the Department of Forestry & Wildlife Management at the University of Massachusetts and will be distributed through the Cooperative Extension Service.

A "Secondary Directory" is also being prepared by a private consultant during 1984 and is expected to be published by the end of the year. This directory will list all Massachusetts manufacturers of semi-finished to finished wood products of all types and will also supercede a 1980 edition.

RESOURCE CONSERVATION AND DEVELOPMENT

The Berkshire/Pioneer Resource Conservation and Development component of the Bureau continued to be actively involved with the forestry issues and goals of western Massachusetts during FY 84. Gerald Veale, RC&D Forester was active in a number of projects, meetings, technology transfers, and field visits in the areas of Wood Energy/Biomass, Marketing and Utilization, Private Forestland Management, and the Wood Products Industry.

The RC&D Forester represented the Bureau on a Dept. of Energy/ D.E.M. Wood Energy Development Project Advisory Board, and collected information on wood chip producers and brokers. Assistance was also provided to several sawmills to improve their efficiency and marketing strategies. Material was collected and prepared for an updated edition of the Directory of Commercial Sawmill Operators and Loggers in Massachusetts, which is to be published in the Fall of 1984.

Regarding private forestland management, the RC&D Forester assisted in organizing a wildlife management seminar for foresters, organized a DEM workshop on forest insects, and provided much public relations in forestry. This consisted of writing press releases, participating in press tours, developing booth exhibits at the Eastern States Exposition and Topsfield Fair, providing information for several articles in area newspapers, and assisting in the development of a video presentation on the maple syrup industry. He assisted with manning a joint U.S. Forest Service/DEM booth pertaining to Truss Frame House Construction at the annual conference of the Northeast Retail Lumberman's Association.

The RC&D Forester participated as a member of the Massachusetts Tree Farm Committee, attended many RC&D meetings, and compiled data necessary to complete a Plan of Work for the next 3 year (Federal Fiscal) period.

FOREST RESOURCES PLANNING

The primary goal of the program is to prepare and implement a comprehensive Forest Resources Plan for the Commonwealth. Upon completion, the State Forest Resources Plan will provide policy and program direction for the Division of Forests and Parks, as well as provide the Commonwealth's portion of the 1985 Federal RPA effort. This program is directed by Dr. Muriel E. More. Joseph Ochab, former Assistant Planner, resigned at the end of the fiscal year to accept a new position with the DEM Office of Planning and Development (OPD).

During Fiscal Year 1984 considerable progress was made in the Forest Planning Program. The discussion draft of the State Forest Resources Plan was virtually completed and the Massachusetts Forest Resources Advisory Committee initiated their review process. The Plan makes forest resource policy and program recommendations for the next five years based on an analysis of State Forestry programs, current forestry legislation, six technical working group reports (covering issues and proposed solutions for the planning and management of state, municipal and privately owned forest land, forest industries, wood energy and forest protection) produced by the Advisory Committee, a status report on acid rain prepared by Mr. Ochab and technical supply/demand assessments of the Commonwealth's major forest resources (timber, recreation, wildlife and water) also prepared through this program. Following completion of the Advisory Committee and Department of Environmental Management review, the plan will be disseminated for public review before final revisions are made.

Substantial progress was also made in the G.O.A.L.S. (Guidelines for Operation and Land Stewardship) Program. This program was launched in Fiscal Year 1983 and is directed to producing multi-resource management plans on units in the state forest and park system. While this program is now coordinated by the Office of Planning and Development (OPD), it was jointly administered for most of the year by the Division of Forests and Parks and OPD with Dr. More serving as the Division's Program Coordinator. Key activities included developing the management planning process and initiating planning efforts in all five administrative regions. Developing these plans was identified as a critical need in the forest planning process and should augment future statewide planning by enhancing our ability to specify resource outputs on state lands.

In other forest planning activities, Dr. More has continued to serve as the Division Coordinator for the Massachusetts Prime Timberlands Mapping Project. The Department of Forestry and Wildlife Management at the University of

Massachusetts has been under contract to inventory and map seven counties covering 1,790,500 acres of commercial forest land. To date five counties, or approximately 1.2 million acres, have been mapped utilizing a site classification system that estimates both hardwood and softwood potential productivity. The remaining counties are scheduled for completion within the next fiscal year. Complementary to this and other planning projects, Mr. Ochab also initiated a study of the Division's remote sensing capabilities and needs. His report will be available in late summer.

Finally, Massachusetts hosted the annual Northeastern Forest Planners Association Conference in June in Danvers, MA. The Conference was the largest to date with 95 forest planners and administrators from 23 states in attendance. Dr. More served on the Association's Conference Program Committee and chaired the host state arrangements committee. The Conference was extremely successful and much credit is due personnel from the Bureau of Forest Development and the Division of Forests and Parks who served on the arrangements committee: Joseph Ochab, Thomas Quink, Rose DiSabatino, David Fraser, Robert McLean, Margaret Cruise, James MacArthur and Donald Stoddard.

URBAN AND COMMUNITY FORESTRY

The beginning of FY '84 involved administering a federal grant from the Small Business Administration in the amount of \$908,600. This money was used to hire unemployed persons to perform landscaping work of a permanent nature on publicly-owned land. Considered as an Urban Forestry project, the money was applied for, subsequently received, and titled the "Liberty Tree Job Corps". Approximately half of the grant money was allocated to four state agencies. DEM, Division of Fisheries and Wildlife, Dept. of Public Works and the Metropolitan District Commission conducted 10 programs on properties that each is responsible for.

The other half of the grant money was awarded to 15 of the 92 municipalities and private non-profit organizations which had applied for funding. Proposition 2½ had severely affected the tree departments of almost every city and town, and this federal grant money was required to be used for urban forestry purposes. The competition for funding was therefore intense.

Approximately 250 people were hired for the Liberty Tree Jobs Corps Program, and hundreds of trees were planted. This jobs program resulted in permanent employment for some workers. Roxbury Community College has subsequently instituted a landscaping program. The City of Haverhill is continuing its tree planting program without federal or state funding.

The Urban and Community Forestry Project (U&CF) funded a contract with the Shade Tree Laboratories of the University of Massachusetts to provide technical and diagnostic services to municipalities, state agencies and private citizens. Principal parties involved in this venture are Robert McLean, Urban and Community Forester, Dr. Francis Holmes, Director of the Shade Tree Labs, and Ernest DeRosa, Urban Forester with the Waltham Field Station of the University.

The U&CF program feels strongly that any additional seed money will allow us to reap additional beneficial harvests.

ARBOR DAY

The Martin Luther King, Jr. Foundation of Atlanta, Georgia approached the Urban and Community Forestry (U&CF) Specialist with a request to dedicate a tree to the memory of Martin Luther King, Jr. At the suggestion of the U&CF Specialist, the John F. Kennedy Memorial Library at Columbia Point was asked to participate, which they did with enthusiasm. The event was centered around the DEM-sponsored Arbor Day Celebration which is held each year in each of the five regions and in Boston.

The event, held on May 4, 1984, was attended by several dignitaries, government officials and classes of school children. Rainy and stormy weather

was a deterrent to public participation, however the media was well represented. Following the ceremonial planting of a honey-locust tree, a buffet luncheon was served to all, including the library staff.

INCOME

The forestry account derived income from several sources - namely from federal grants, forest products sales, the issuance of harvesting licenses, filing fees, and leases/permits. These monies totalled \$831,104 for FY 84, as compared to \$850,154 in FY 83. The following is an analysis of the Bureau's receipts.

PROGRAM

<u>State Lands & Service Forestry Income</u>	<u>Amount</u>
Harvesting Licenses	\$ 7,330
Forest Products Sales (refer to footnote)	642,175*
Chapter 61 Tax Law Filing Fees	33,414
Rents/Leases	13,285
Sub-Total	<u>\$ 696,204</u>
 <u>Federal Income</u>	
U&CF (Urban and Community Forestry)	\$ 42,000
RC&D (Resource Conservation and Development)	23,900
RFA - Marketing & Utilization/Service Forestry	28,180
FRP (Forest Resources Planning)	17,000
FIP (Forestry Incentives Program)	14,400
FTI (Forest Tree Improvement)	7,020
ACP - Technical Assistance	2,400
Sub-Total	<u>\$ 134,900</u>
 TOTAL -----	 \$ 831,104

*Includes a \$9,000.00 sale of forest products from land under the jurisdiction of the Division of Fisheries and Wildlife under an agreed-upon cooperative management program.

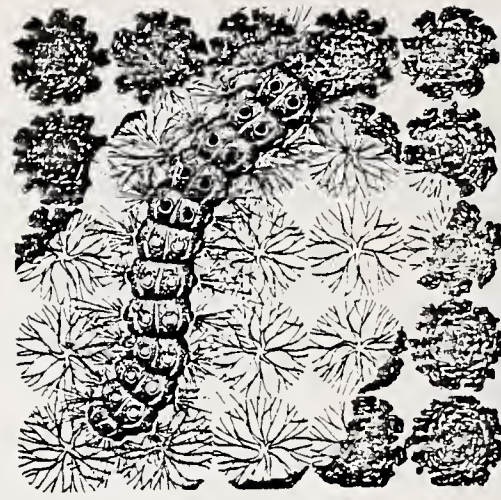
Total sales figure also includes \$250 for 20 red pine poles sold at the Loggers Congress and Exposition.

ANNUAL REPORT

FISCAL YEAR 1984

BUREAU OF INSECT PEST CONTROL

CHARLES S. HOOD - CHIEF

SUMMARY OF CONDITIONS

As each Fiscal Year begins it coincides with the proper time in the annual life history of the gypsy moth to commence the aerial survey to determine the current amount and extent of defoliation. In 1983 the insect continued its down-ward trend which began after the record breaking outbreak of 1981. We have reason to believe that for some, as yet, unexplained reason the 1984 survey will show an increase in acreage over that recorded in 1983.

Early predictions by the District Supervisors were that defoliation would be evident in the Southern Worcester County area, in the Westport and Dartmouth area and on Cape Cod. The predictions were correct. Gypsy moth activity was evident in these areas in May and June of this year. What we did not anticipate were the number of caterpillars and the acreage involved.

Oak trees are continuing to die as a direct result of defoliation by the gypsy moth. Mortality of those trees growing in the forest has slowed down considerably. Those growing under less favorable conditions such as along streets are continuing to succumb at a somewhat alarming rate after having suffered a year or more of complete defoliation.

Another insect which has caused a delayed action in tree mortality following an outbreak is the oak leaf tier. For all intents and purposes the outbreak in the Wendell-Erving-Warwick area has been over for two years.

Red oak is still dying as a result of the repeated defoliations, however. We are now faced with a similar situation in Bristol and Norfolk Counties. Signs of feeding by this complex of insects were evident in that area of the State this year.

Anthracnose, a disease which attacks leaves of deciduous trees, was reported throughout the State following a rainy spring. This disease often becomes widespread during periods of rain and high-humidity early in the season. Sycamores and ash were most severely attacked.

No other unusual insect or disease problems were reported during the year. Eastern tent caterpillar, Japanese beetle, and fall webworm were reported as light except in Plymouth and Barnstable Counties where fall webworm and eastern tent caterpillar were reported as heavy. The fall cankerworm defoliated a large area on Nantucket and light defoliation was evident on Marthas Vineyard.

GYPSY MOTH

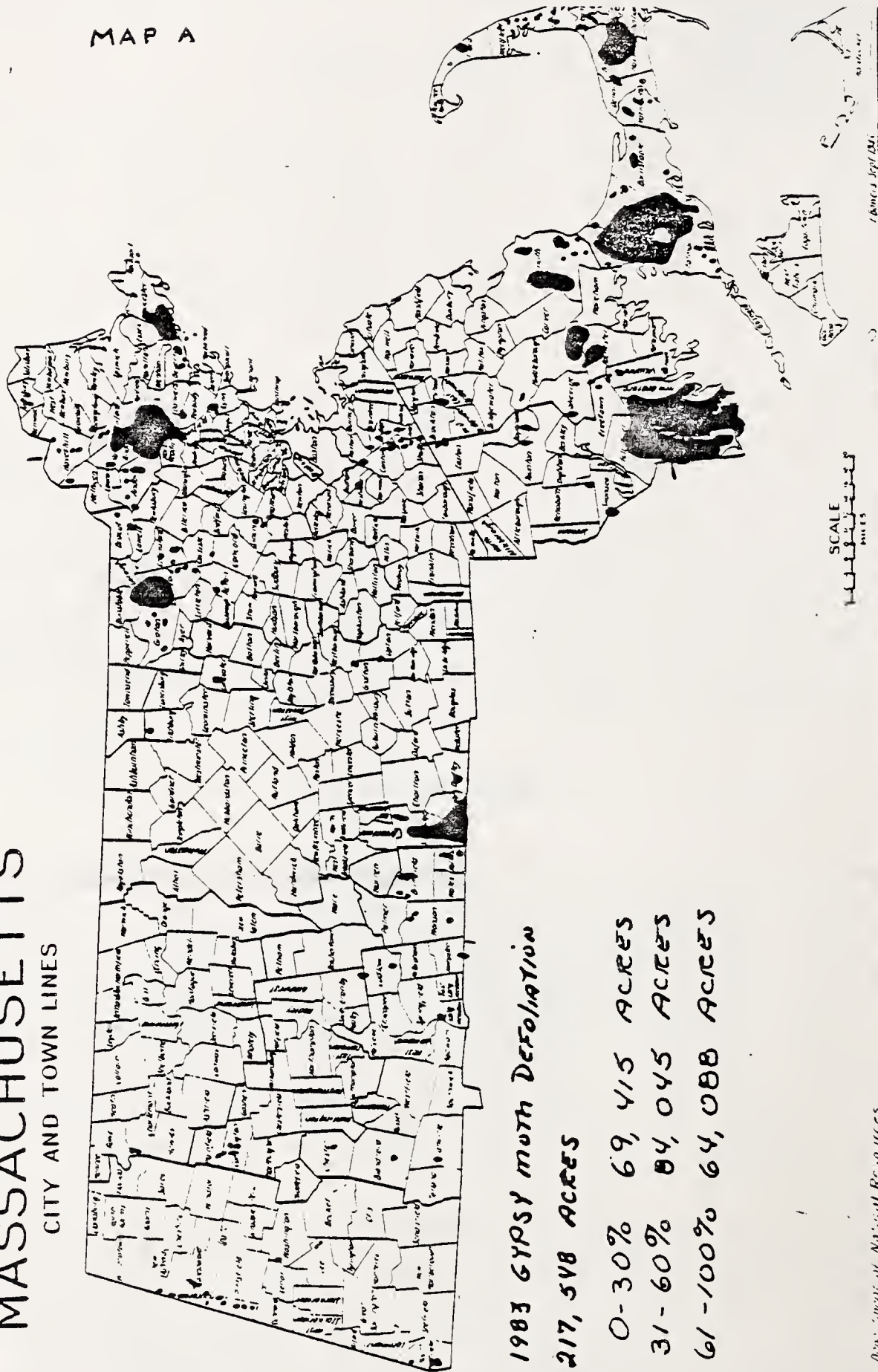
The annual aerial survey to determine the amount and degree of defoliation by the gypsy moth was conducted in early July. A total of 23.8 hours of flying time were required to complete the survey. Final results indicated that 217,548 acres had visible defoliation.(MAP A) This was a significant decrease from the 1,400,000 acres recorded during the previous year.

From the egg mass survey conducted in the fall of the year it was predicted that gypsy moth activity would continue its downward trend in most areas of the State. For the most part the predictions held true. More extensive defoliation than expected was recorded in Bristol County and in Southeastern Worcester County. The fact that egg mass

MASSACHUSETTS

CITY AND TOWN LINES

MAP A



counts in these areas during the previous fall did not indicate populations of the magnitude needed to cause the defoliation leads us to believe that blow in of young, first instar larvae from Connecticut and Rhode Island occurred. High infestations on Cape Cod had been predicted in certain areas. The prediction was accurate except that the areas were more extensive and were more heavily populated with the gypsy moth.

No major spray projects aimed at the gypsy moth were attempted this year. Nine communities on the Cape did conduct ground spraying programs. The majority of these used *Bacillus thuringiensis* alone or in combination with Sevim.

Parasite Programs

Work involving parasites and predators of the gypsy moth continued during the year. Calosoma sychophanta, a beetle, is an important predator of lepidopterous larvae. Both the adult and larval stages feed voraciously on the gypsy moth larvae and pupae. Both the adult and larval stages are excellent tree climbers and will pursue their prey in the tree tops. It was imported from Europe to aid in control of the gypsy moth and was well established in 1906. Adults may live up to four years.

C. Sychophanta has not been reported on Cape Cod for many years. In 1984 it is planned to capture and relocate this predator on the Cape. Starter colonies of fifty beetles will be used to reestablish this valuable predator.

In another project involving parasites an attempt is being made, in cooperation with the U.S. Forest Service, to introduce a recently acquired parasite from Japan, Rogas lymantriae. This is the second year involving this work. Release work is taking place in Provincetown in close proximity to both gypsy moth and browntail moth.

It is hoped that Rogas will utilize the browntail moth as an alternate host.

Anastatus disparis is a valuable egg parasite of the gypsy moth.

Gypsy moth egg masses were collected in the fall of 1983 from the areas where the egg parasite, A. disparis, was released. In district one, Cape Cod and Plymouth County, fourteen sites received parasites. In district eight, Berkshire County, six sites received parasites. Six of the sites in district one collapsed and no gypsy moth eggs could be found to evaluate establishment of the parasite. In the other eight sites adult A. disparis emerged from all the collected host egg masses. Berkshire County had only one site where egg masses could be collected that yielded adult A. disparis. This site was in the Pittsfield State Forest.

Host egg masses were collected and evaluated to locate the best areas in which to collect egg masses with high rates of parasitism for release in 1984. Collection sites were in Sutton, Charlton-Oxford, Rutland, Brimfield and Upton. The average A. disparis emergence from Sutton was 74 adults per egg mass, Charlton-Oxford was 118, Rutland was 63.8, Upton was 20.8, and Brimfield was 84.2.

A total of 2,462 egg masses were collected for the release work in 1984. The masses were refrigerated until after the gypsy moth had hatched in the field and then taken out of refrigeration and allowed to hatch. The caterpillars were destroyed and the parasitised eggs then taken into the field for release. Both districts one and eight were used for the release sites again this year. The parasite is considered established in all other parts of the state. The above procedure should insure parasite emergence at peak female gypsy moth egg deposition. The female A. disparis will only attack freshly laid host eggs. Once the embryo becomes an apparently developed larva the parasite will no longer attempt to attack the egg mass.

Based on the average emergence of the adult A. disparis some 152,613 adults will be released in 1984. Host egg masses will be collected this coming fall and evaluated for establishment of this important egg parasite.

Annual data continues to be collected from so-called mortality plots throughout the State. These plots were established and the first set of data collected in 1982. The following table indicates a continuing loss in trees during the second year of observation. Continued monitoring of the mortality of host trees for the gypsy moth across Massachusetts showed a slight increase in mortality for 1983.

	1982			1983			
District	#Trees	#Dead	%Dead	#Trees	#Dead	%Dead	%Increase
1	969	140	14.5	969	149	15.4	.9
20 Plots							
2	1158	212	18.4	1158	248	21.4	3.0
14 Plots							
3	417	20	4.8	417	21	5.0	.2
11 Plots							
*4	341	41	12.0	319	67	19.6	7.6
10 Plots							
5	405	57	14.1	405	67	16.5	2.4
11 Plots							

1982				1983			
District	#Trees	#Dead	%Dead	#Trees	#Dead	%Dead	%Increase
6	356	29	8.2	356	34	9.6	1.9
12 Plots							
7	739	109	14.8	739	117	15.7	.9
20 Plots							
8	137	25	18.2	137	27	19.7	1.5
14 Plots							

*not permanent plots.

Research

Work continues in the Entomology Department at the University of Massachusetts on research aimed at developing a gypsy moth management program under the direction of Professor Joseph Elkinton. The basic premise is that armed with certain pertinent information we can predict the start of a rising gypsy moth population in certain key areas of the State. We could then, if funds were made available, apply control measures to stem a potential outbreak situation, thus saving the expense of a major outbreak. The following is a progress report on two projects, both of which should assist us in predicting early signs of outbreak:

I. Development of a Gypsy Moth Monitoring System based upon Pheromone Traps and Burlap Bands.

J.S. Elkinton and S.A. Woods

Dept. of Entomology, Fernald Hall

University of Massachusetts

Amherst, MA 01003

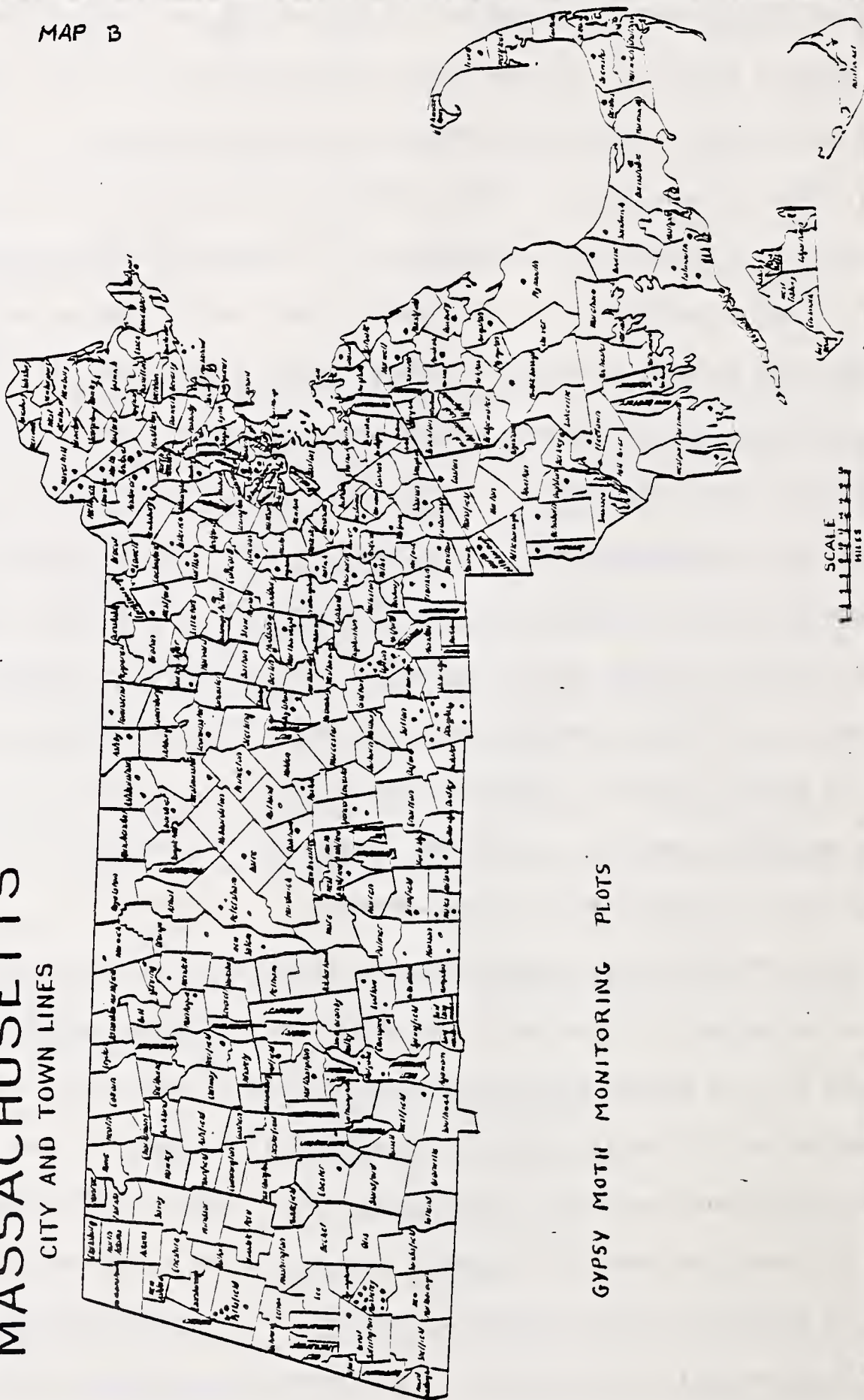
The University of Massachusetts in cooperation with the Dept. of Environmental Management has developed a system for monitoring low density gypsy moth populations that should augment current efforts which are based upon aerial defoliation surveys and egg mass counts.

Pheromone traps and burlap bands work well in areas where populations are so low that no defoliation occurs and no egg masses can be found. By monitoring the year to year changes in the populations in such areas we hope to detect increases in populations well before the onset of a general outbreak. We have chosen approximately 200 sites distributed across the state (MAP B) which we intend to monitor on a yearly basis. These stands are ones that historically are known to be highly susceptible to gypsy moth outbreaks and to experience defoliation prior to major outbreaks. It is possible that in the future such a system could be used to predict outbreaks and control actions implemented in such stands thereby preventing widespread defoliation in subsequent years. The system we have implemented is designed to produce a lot of information with a minimum of labor. We will obtain information on the number of males per pheromone trap and the number and sex ratio of pupae per burlap band. The sex ratio is important because in collapsing populations males can outnumber females ten to one. In addition we will obtain information on the amount and cause of pupal mortality and the size of egg masses both of which will indicate the trend and quality of the population.

The 200 sites have been chosen and the plots established by Bureau personnel in areas with a past history of early outbreaks. The purpose of this annual collecting and counting of male moths and the determination of the sex ratio is to establish a baseline from which early population increases can be recognized. With this knowledge in hand it should be possible to apply a pesticide to a relatively small area to prevent a more widespread outbreak in the years following. The ultimate goal of this project is to prevent extensive outbreaks and the resultant aggravation and expense as have been experienced in the past.

MAP B

MASSACHUSETTS CITY AND TOWN LINES



SCALE
MILES

GYPSY MOTH MONITORING PLOTS

II. Effect of B.t. on gypsy moth virus mortality

In the spring of 1983 field plots were established to further study the effects of Bt on NPV induced mortality in gypsy moth populations. Three 40 acre blocks and one large area treated by the town of Falmouth were included in the study. As in Lyme, CT. (1982), egg masses were collected prior to treatment and in the following spring (1984). Larvae from these egg masses were hatched out and reared on artificial diet for 4 weeks, while virus induced mortality was noted weekly. Data compiled in the fall of 1983 indicates that the virus levels obtained from the egg masses of Bt-treated plots in Connecticut were only 60% of the levels observed in untreated plots. Since egg mass densities were comparable in the winter following treatment, this suggests that larval densities may well be higher in Bt-treated plots in the generation following the generation that was treated. Samples have also been processed for the Cape Cod plots, although the data has not been analysed so these results remain unconfirmed at this time.

In addition to egg mass virus load analysis, larvae were collected weekly in the Cape Cod plots, reared on artificial diet in the insectary at the USDA Otis Methods Development Lab, and monitored daily for mortality. Virus mortality was lower in plots on Cape Cod following treatment with B.t. which confirms the observations from Lyme, Ct. In addition, careful analysis of the data suggests that although there are differences in the populations immediately following treatment, the actual expression of virus mortality does not differ for several weeks post-treatment. This phenomenon suggests that Bt acts either by lowering the rate of virus transmission (via reduction of population numbers) or by selectively affecting those larvae that are susceptible to NPV (or both).

Through the combination of egg mass density, larval mortality, and larval density sampling it becomes apparent that treatment with Bt in high density sites brings about an immediate reduction in larval numbers sufficient to reduce defoliation levels. However, this reduction in the early season is compensated by lower rates of virus mortality later in the season resulting in comparable egg mass densities, whether treatment is applied or not. I believe that this Bt-NPV interaction will go a long way in explaining much of the variability in Bt induced egg mass reduction common to formulation trials over the years.

Field plots (1 treatment and 1 control) were established again on Cape Cod in the spring of 1984. Egg mass densities and virus loads have been estimated and larval collections have proceeded as in previous years. In addition, detailed weather data was collected throughout the season while foliage and bark samples were collected to document virus levels in the environment. External virus levels will be estimated using bioassay and ELISA techniques (to be discussed below). The data obtained from this extensive examination of virus levels, virus expression and habitat differences will then be used to unravel the cause of the Bt-NPV interaction observed in previous years. The importance here is two-fold, 1) an understanding of this phenomenon will allow us to assess whether or not other insecticides will have similar effects, and how different virus levels will affect the interaction; 2) an understanding of this phenomenon should give us some insight into some of the factors responsible for virus expression in natural populations (presently very poorly understood).

The ELISA technique of NPV detection was developed by Dr. Ma at the University of Maryland and holds the most promise as a tool to monitor virus levels under field conditions. It is quite likely that this may be available to field scouts within the near future to predict the spread of virus epizootics. Under a cooperative agreement, samples were collected for ELISA analysis during 1983 and to a much larger extent in 1984. There is presently an extensive collection of larvae, pupae, leaves and bark to be analysed starting in the fall of this year. These samples when compared with the bioassay samples and detailed population studies will be used to calibrate the ELISA readings so that predictions can be made. This should greatly increase our ability to predict virus outbreaks and therefore population crashes of the gypsy moth.

Egg mass densities and virus load samples were also taken from Lyme, Ct. in the spring of 1984 with 2 objectives in mind. First we wanted to see if different virus levels in Bt-treated plots resulted in higher egg mass densities in subsequent years (as suggested by lower virus levels in larvae emerging 1 year after treatment). Secondly, if differences in egg mass numbers and virus loads were apparent 2 years after treatment, then this would be the first indication that long range impact studies would be possible with gypsy moth populations. This is of importance not only in the analysis of Bt effects but also in studies with other biological control efforts such as Gypcheck which may have more of an effect on subsequent generations than in the year of treatment. Although samples have been collected, analysis of the data has not been completed at this time.

Estimates of larval density are very important in population dynamics studies, and these studies in turn are equally important in evaluating long and short range effects of potential control options. The use of "knock-down" sprays (pyrethrin) in sampling quadrats of given dimensions is shown to be a viable although costly way of obtaining density estimates. Because of the extensive manpower required, it is unlikely to be used in field applications, however it is presently irreplaceable in research and additional work is being done both in mathematical modeling and in different collection methods to make this technique more generally useful. In the 1984 field plots, other techniques are also being tried to obtain density estimates.

In addition to the work mentioned above, data collected over the past two years is still being analysed for insight into other questions. Two years of egg mass virus load data combined with subsequent population dynamics studies should allow us to be able to define usable methods (such as ELISA) for predicting population crashes. Similarly, trap catch data and egg mass location in the environment may be useful predictors of "population quality".

MOSQUITO CONTROL

For the past few years no effort has been made to control mosquito populations on Departmental recreation areas. The reason for the discontinuance of the annual program is that the Massachusetts Environmental Protection Agency, MEPA, in the Executive Office of Environmental Affairs asked that we delay any mosquito control programs until a generic environmental impact report had been completed by the Reclamation Board.

Following submission of an Environmental Notification Form to the MEPA section in which two proponents were named - The Reclamation Board and The Department of Environmental Management a Citizens Advisory Committee was named. A series of meetings were conducted to hammer out a "Scope". The purpose of the Scope is to provide guidelines for the contractor to follow in the preparation of the Final Environmental Impact Report. At the time of this writing the scope has yet to be approved by MEPA and no contract has been awarded.

RULES AND REGULATIONS

The 1983 Annual Report stated that a problem existed in the recently published rules and regulations adopted under the statutory authority MGL, C132, S11. How to define "wide area control" relative to spraying with ground equipment needed some sort of mechanism to clarify the situations as they arose.

In order to keep the factors to be used to make the final decision as simple as possible and yet fulfill the intent of the regulations the mechanism which follows was devised. It is not going to satisfy everyone. Local Superintendents do, however, have a legal responsibility to suppress the public nuisances, and, in many cases, any delay in instituting a control program would defeat the purpose of this responsibility. It is also the responsibility of the Local Superintendent to abide by the Rules and Regulations which have been established for the purpose of carrying out programs for the control and suppression of public nuisances. The mechanism devised to determine "wide area", as presented below, allows for the proper conduct of local insect pest control programs.

WIDE AREA SPRAYING DETERMINATION REPORT

BUREAU OF INSECT PEST CONTROL

A. PROPOSED CONTROL MATERIAL

- | | | |
|---------------|----------|-------|
| 1. Biological | 1 Point | |
| 2. Chemical | 2 Points | _____ |

B. PURPOSE OF THE CONTROL PROGRAM

- | | | |
|-----------------------------------|----------|-------|
| 1. Nuisance relief | 1 Point | |
| 2. Protection of High Value Trees | 1 Point | |
| 3. Aesthetic | 2 Points | |
| 4. Experimental | 1 Point | _____ |

C. EXTENT OF THE CONTROL PROGRAM

Will more than 10% of the municipal or public roadside miles (one side) in the community receive direct application of the spray material?

- | | | |
|--------|----------|-------|
| 1. Yes | 5 Points | |
| 2. No | 1 Point | _____ |

D. THE PUBLIC NUISANCE TO BE CONTROLLED

- | | | |
|------------------------------------|----------|-------|
| 1. General defoliator (multi-host) | 2 Points | |
| 2. Host Specific | 1 Point | _____ |

E. NUMBER OF PERSONS IMPACTED

Will more than 10% of the total number of persons within the municipality abutt the area of direct application.

- | | | |
|--------|----------|-------|
| 1. Yes | 5 Points | |
| 2. No | 1 Point | _____ |

Total Points _____

If the total points are greater than 10 than the spray program is to be considered as wide area.

If in the opinion of the Local Superintendent and the District Supervisor would be detrimental to delay spraying due to an unpredictable infestation then the control program will not be considered as wide area.

RED PINE ADELGID

A request was made of the Bureau by the Durham, N.H. office of the U.S. Forest Service to survey red pine plantations in Massachusetts for the presence of this aphid which can cause severe damage and death to red pine when it attacks.

Although the insect has been reported from Massachusetts, Bureau personnel have not, as yet, been able to confirm its presence. Efforts will continue, however. Symptoms of damage are mortality of lower branches, "flagging" or dead olive green to bright red terminal branch clusters in lower crowns.

PINE WOOD NEMATODE

Nematodes are microscopic "eel worms." The pine wood nematode lives in the resin canals of the sapwood of trunks, branches, twigs and roots. It is known to attack 21 species of pine, 2 of cedar, 2 of larch and 2 of spruce. An attempt is now being made to determine its distribution in the United States.

Contact was made with the Bureau District Supervisors by the Department of Plant Pathology at the University of Massachusetts. The supervisors were given instruction as to how to survey for the nematode. Collections were made from suspected trees and the samples sent to the University. As of the date of this writing no confirmations have been received concerning the presence of the nematode.

OAK LEAF TIER COMPLEX

As in past years 15" terminal ends of red oak branches were collected for evaluation of the oak leaf tier problem. The collection sites are located in eastern Franklin County in New Salem, Erving, Wendell and Warwick. Collections were also made south of Boston in Easton, Sharon, Mansfield, Raynham, Norton, Taunton, Attleboro, Swansea and Acushnet. The Oakham State Forest is the check area for the plots in eastern Franklin County and was sampled as well.

Each branch is examined under a microscope for the tier eggs. These eggs are counted and averaged per collection site. Prediction of the next years expected defoliation is then possible.

In eastern Franklin County the tier population is at a low level although mortality of red oak continues to occur. No appreciable defoliation should take place in this area in 1984.

Based on the egg counts in the Norfolk - Bristol County area the population has increased to the point where moderate defoliation of 26-75% will occur in Easton and the surrounding towns. Light defoliation will occur to the west, south and east of these towns.

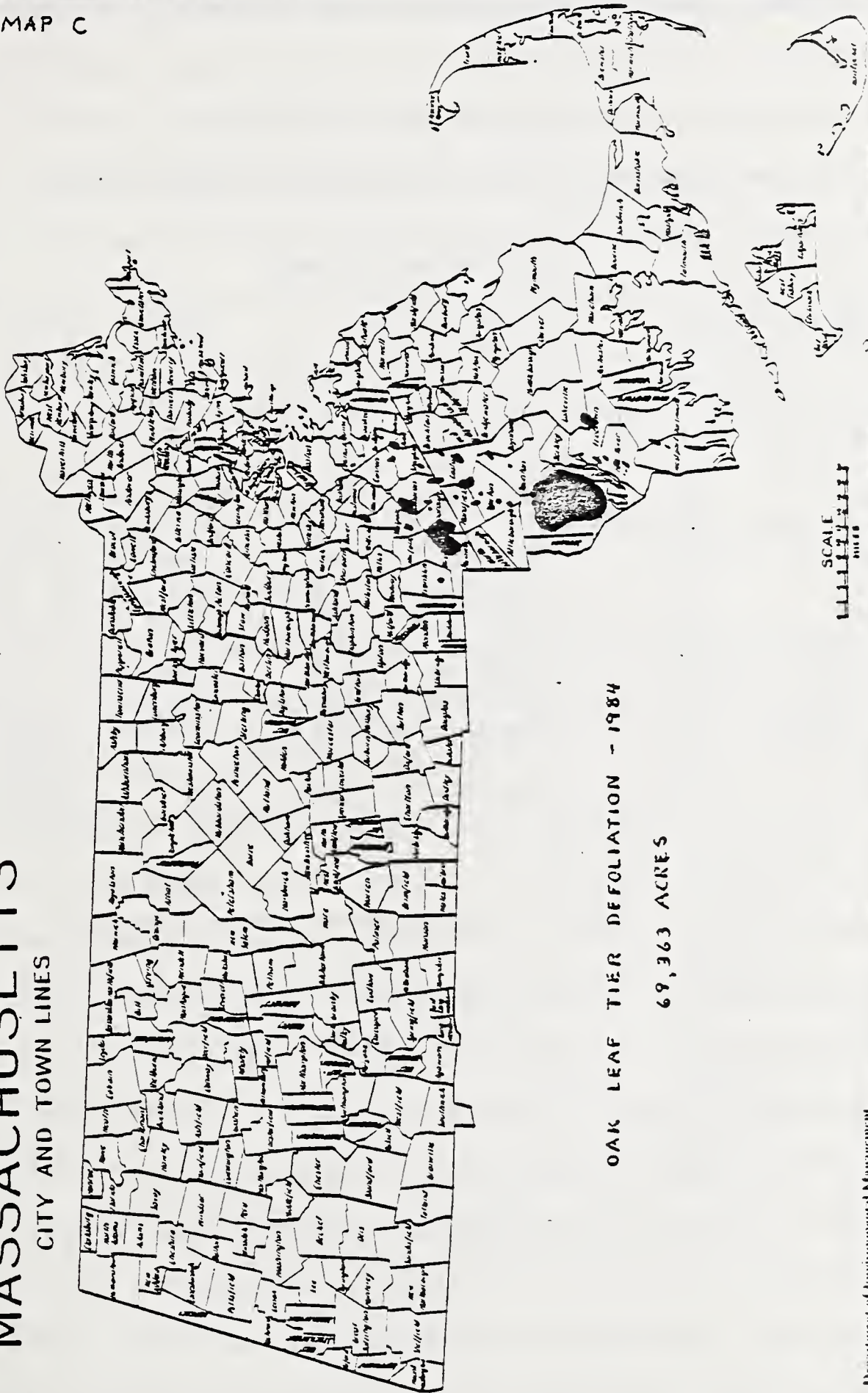
An aerial survey was conducted on June 15th and showed 69,363 acres of defoliation in the Norfolk - Bristol County area. (See the following breakdown of acreage by town and MAPC). The Gypsy Moth is also building in the southern and southwestern sections of this tier-roller infestation.

On site inspections show Argyrotoza semipurpurana (formerly Croesia semipurpurana) and a leaf roller in the family Gelechiidae - genus Telphusa present. A. semipurpurana was the predominant species present in eastern Franklin County in the late 1970's where heavy defoliation took place for several years followed by tree mortality.

MASSACHUSETTS

CITY AND TOWN LINES

MAP C



OAK LEAF TIER DEFOLIATION - 1984
69,363 ACRES

In the fall of 1984 branch samples will be collected and egg counts made to predict the extent and severity for the 1985 season.

D.V. Trefy

Aerial Survey - 6-15-84

1984 - Oak Leaf Tier - Roller Complex - South Shore

Defoliation by Towns

Attleboro - 1,188	Franklin - 66	Sharon - 6,600
Avon - 1,606	Mansfield -1,199	Somerset- 121
Brockton - 352	Milton - 198	Stoughton- 385
Canton - 968	Norfolk - 253	Swansea - 8,272
Dighton - 11,088	Norton - 2,508	Taunton - 2,288
Dover - 429	Plainville - 737	Walpole - 1,616
Easton - 5,302	Randolph - 659	Westwood - 22
Fall River - 176	Rehobeth -14,960	Wrentham <u>-3,696</u>
Foxboro - 3,970	Raynham - 704	69,363 acre

OAK LEAF TIER FOLLOW - UP STUDY

The Bureau, in cooperation with The Bureau of Forest Development, has been monitoring the effects of Oak Leaf Tier on 44, 1/5 acre continuous Forest Inventory Plots occurring on State Forest land in Eastern Franklin County. Twenty-two of these plots occur in pole size (5" to 11" d.b.h.) stands and eleven of them occur in sawtimber (11" + d.b.h.) stands. Although there are 152 plots throughout the area the 33 that were monitored were chosen because they had the highest incidence of oak stocking and presumably would be the stands most adversely affected. If time and/or money is available in the future we hope to visit the other (108) plots to ascertain damage to stands in which oak is a minor, but never the less valuable component.

Mr. Robert Mack a forest management consultant was retained to process and analyze the data in F.Y. 1984.

Essentially, the analysis compared stand attributes measured in 1978, 1979, 1980, 1982 and 1983 with data gathered during the pre infestation period (pre 1978).

In summary, the analysis showed the following.

In the oak sawlog type if pre infestation growth rates had continued and there had been no growth loss or mortality which we attribute to the infestation the stands would have grown a total of 1,818 bd. ft. per acre during the 1978 - 1983 period. Therefore there was a net loss of 3,278 bd. ft. per acre in mortality and lost increment. At the modest price schedule used in developing this report the actual dollar loss was \$276 per acre. Pole stands would have grown 1550 bd. ft. per acre, but instead lost 42 bd.ft. per acre for a total loss of 1,592 bd. ft. per acre having a value of \$141.00. While this is significantly less than the sawlog stands one should note that board foot volume is calculated only for those trees having a d.b.h. greater than 11" and there are few trees of this size in pole stands.

In a general sense the relationship of crown position (tree dominance) to mortality was significant. Those trees having a higher degree of dominance suffered less mortality than overtopped and suppressed trees. These relationships were more apparent in pole stands than in sawlog stands.

Although the percentage mortality holds somewhat constant throughout different degrees of oak stocking classes it is important to note that the survivors in those stands having a high proportion of oak generally are in a poorer state of health.

Mortality peaked in the pole stands in 1981 - 1982 and appears to have peaked in 1983 in sawlog stands although subsequent measurements will clarify this assumption.

From the foregoing we can draw two important management recommendations:

1. Salvage operations in sawlog stands should be postponed for several years since mortality peaks several years after the defoliation period. Because of their larger size dead sawtimber trees "keep" longer than their smaller, pole size associates. Interestingly enough, mortality peaks earlier in pole size stands, hence salvage operations could begin sooner in them.

2. Probably the most important point to be brought home by this study is that serious thought should be given to developing a control strategy since we will, no doubt, have future outbreaks of these pests both in Franklin County and in other parts of the Commonwealth in the future.

RELATED BUREAU ACTIVITIES

For some time now we have been aware that certain trees on many of our recreation areas are in need of attention both from an aesthetic standpoint and, more importantly, from the standpoint of safety. District Supervisor, Pete Porrazzo, was assigned the task of conducting a statewide survey, covering the five regions, in an effort to determine the extent of the problem.

A review of the activities of the five tree removal crews during the year indicates a continued lessening of assistance to cities and towns and an increase in time spent on tree work on our state forests and recreation areas. Despite severe limitations in manpower and the necessity to perform many other duties, the work records of the crews is outstanding. It should be noted, however, that Pete's estimate of days needed is based on four man crews. Whether we will achieve that number of tree crew personnel again is questionable. The following is Pete's report:

TREE SURVEY OF STATE RECREATION AREAS

PETER PORRAZZO

The purpose of the survey was to assess the number of hazardous trees and tree limbs to be removed in picnic areas and campsites. A total of fifty two recreation areas was surveyed and forty three areas are in need of maintenance. The amount of man/days required to do the work was based on a four man tree crew from each region, equipped with a Winch truck and A-frame and a Hydraulic log loading truck.

A skyworker could be used to expedite the pruning of a large number of dead and dying tree limbs in and around the campsites and roadways. Power line clearing could also be done by the skyworker.

The total figures of the amount of work to be done is listed by region on the following pages.

REMARKS:

Causes of tree mortality and dead and broken tree limbs was from insect pest defoliation, ice storms, snow storms, high winds, and other natural causes.

There is a need to have a yearly continuing tree maintenance program in our recreation areas in order to provide safe and aesthetically pleasing sites for public use.

WORK TO BE DONE IN FORTY-THREE AREAS

STATE WIDE

Total Trees To Be Pruned	2369
Total Trees To Be Removed	997
Total Days Needed	886
Total Man/Days	3544

REGION I

Total Trees To Be Pruned	346
Total Trees To Be Removed	301
Total Days Needed	131
Total Man/Days	524

REGION II

Total Trees To Be Pruned	371
Total Trees To Be Removed	180
Total Days Needed	226
Total Man/Days	904

REGION III

Total Trees To Be Pruned	1030
Total Trees To Be Removed	194
Total Days Needed	280
Total Man/Days	1120

REGION IV

Total Trees To Be Pruned	297
Total Trees To Be Removed	176
Total Days Needed	125
Total Man/Days	500

REGION V

Total Trees To Be Pruned	325
Total Trees To Be Removed	146
Total Days Needed	124
Total Man/Days	496

REGION 1 - TREE SURVEY

FOREST	PRUNING	REMOVALS		EQUIPMENT	DAYS	MAN/DAYS
		IPC	PK			
AMES NOWELL S.P.	70	56		WINCH	26	104
BORDERLAND S.P.	78	89		WINCH	35	140
DEMAREST LLOYD S.P.	65	10		WINCH	15	60
DIGHTON ROCK S.P.	32	6		WINCH	8	32
FREETOWN S.F.	28	3		WINCH	6	24
MYLES STANDISH S.F.			24		6	24
NICKERSON S.P.	12		74		15	60
STANDISH MONUMENT S.P.	9		15		5	20
WATSON POND S.P.	40	8		WINCH	9	36
WOMPATUCK S.P.	12	6	6	WINCH	6	24

TOTAL TREES PRUNING _____ 346

TOTAL TREES REMOVAL _____ 301

TOTAL DAYS _____ 131

TOTAL MAN/DAYS _____ 524

068

REGION II- TREE SURVEY

FOREST	PRUNING	REMOVALS		EQUIPMENT	DAYS	MAN/DAYS
		IPC	PK			
ASHLAND S.P.	48	12	20	WINCH	34	136
BRADLEY PALMER S.P.	16	30		WINCH	10	40
				LOADER	25	100
COCHITUATE S.P.	33	3		WINCH	15	60
				LOADER	5	20
HAROLD PARKER S.F.	12	21	38	WINCH	29	116
				LOADER	10	40
HOPKINTON S.P.	129	12		WINCH	44	176
				LOADER	8	32
WALDEN POND S.P.	85	17		WINCH	32	128
				LOADER	10	40
WILLARD BROOK S.P.	8	4	23	WINCH	4	16

TOTAL TREES PRUNING _____ 371

TOTAL TREES REMOVAL _____ 180

TOTAL DAYS _____ 226

TOTAL MAN/DAYS _____ 904

REGION III- TREE SURVEY

FOREST	PRUNING	REMOVALS		EQUIPMENT	DAYS	MAN/ DAYS
		IPC	PK			
DOUGLAS S.P.	48	8		WINCH	20	80
HOLLAND POND S.P.	26	8	2	WINCH	7	28
QUINNSIGAMOND S.P.	64	6	2	WINCH	25	100
PURGATORY CHASM S.P.	62	2		WINCH	23	92
RUTLAND S.P.	29	8	7	WINCH	10	40
SPENCER S.F.	40	4	4	WINCH	7	28
TULLY LAKE S.P.	36	128		WINCH	128	156
WELLS PARK S.P.	725	15	11	WINCH	60	240

TOTAL TREES PRUNING _____ 1030

TOTAL TREES REMOVAL _____ 194

TOTAL DAYS _____ 280

TOTAL MAN/DAYS _____ 1120

REGION IV- TREE SURVEY

FOREST	PRUNING	REMOVALS		EQUIPMENT	DAYS	MAN/ DAYS
		IPC	PK			
BRIMFIELD S.F.	4		4		2	8
CHESTER S.F.	36	1		WINCH	8	32
CHICOPEE FALLS S.P.	46	1	3	WINCH	10	40
GOSHEN-DAR S.F.	66	20	10	WINCH	40	160
GRANVILLE S.P.	34	4	3	WINCH	9	36
ERVING S.F.	43	76	30	WINCH	32	128
ROBINSON S.P.	32	7	5	WINCH	12	48
WENDELL S.F.	36	6	6	WINCH	12	48

TOTAL TREES PRUNING _____ 297

TOTAL TREES REMOVAL _____ 176

TOTAL DAYS _____ 125

TOTAL MAN/ DAYS _____ 500

REGION V - TREE SURVEY

FOREST	PRUNING	REMOVALS		EQUIPMENT	DAYS	MAN/ DAYS
		IPC	PK			
BEARTOWN S.F.	200	3	5	WINCH	37	148
CLARKSBURG S.P.		4		WINCH	2	8
MOWHAWK TRAIL S.F.		6		WINCH	3	12
MT GREYLOCK S. RES.	30				10	40
OCT. MT. S.F.	12				3	12
PITTSFIELD S.F.	15	8	14	WINCH	15	60
SANDISFIELD S.F.	10	45		WINCH	22	88
SAVOY MT. S.F.	40	10	36	WINCH	20	80
TOLLAND S.F.	8	10	11	WINCH	7	28
WACONAH FALLS S.P.	10				5	20

TOTAL TREES PRUNING _____ 325

TOTAL TREES REMOVAL _____ 146

TOTAL DAYS _____ 124

TOTAL MAN/DAYS _____ 496

LEGISLATION

Again this year legislation was re-filed "To change the Name and Restructure the Duties of the Bureau of Insect Pest Control....." The legislation is contained in House Bill #88. The major purpose of the Bill is the restructuring of the Bureau to more closely reflect the needs of the Division of Forests and Parks and at the same time address some of the modern day shade tree problems encountered by the cities and towns.

ANNUAL REPORT

FISCAL YEAR 1984

BUREAU OF FIRE CONTROL

ANTONIO CASTRO, CHIEF FIRE WARDEN

GENERAL

The Bureau's efforts this past fiscal year stressed the importance of fire training and enforcement of all the Massachusetts General Laws pertaining to forest fire violations and forest cutting practice violations. With the cooperation of the state service foresters the Bureau's District Fire Wardens and Patrolmen were very active in implementing the proposed regulations of Chapter #132 Section 40 through 46 of the Massachusetts General Laws. Many state meetings and regional meetings were held in order to uniformly enforce these new regulations. All of our District Wardens and Patrolmen completed 14 weeks of law enforcement training through the Massachusetts Criminal Justice Training Council.

By past year statistics we can consider the fire seasons in the early spring and fall to be very subtle in nature. There were 5,302 reported fires, with 5,168.80 acres burned, which represented an approximate loss of \$466,791.10 to private landowners and to the Commonwealth. The unusual amount of moisture during this period enabled the Bureau to place an emphasis on training of its fire fighting personnel. In the Bureau's 13 fire districts 724 training sessions were completed for the fiscal year. This included training of fire personnel, parks personnel, correctional inmates and rural fire department personnel.

The suburban invasion of our forested areas, increases the risk of a wild fire threatening lives and expensive property. Quick response on the part of the Bureau and rural fire communities will minimize danger to lives and property. Our fire tower detection system is utilized by all the fire communities in the Commonwealth.

The Bureau is mandated with the responsibility for providing aid and advice and training to cities and towns in the Commonwealth according to Chapter 21, Sections 1 and 4., Chapter 48, Section 28 of the General Laws amended, and with the authority of P.L. 95-224 Federal Grant and Agreement Act of 1977 and P.L. 95-313 Cooperative Assistance Act of 1978, Section 7(b) 3.

EXPANSION OF DISTRICT FIRE WARDEN'S DUTIES

The duties of the District Fire Warden have been expanded to include the coordination of activities related to the protection and safety of the general public using Division of Forests and Parks facilities; employees of the Division; Division facilities and property. In addition the District Fire Wardens have taken on the administrations of the Federal Excess Property "Pass Through Program ". This program is geared to improve the fire protection of the communities and fits in nicely with the Bureau's mandate.

These expanded duties and a proposed title change are the basis of an upgrading for this position which the department is actively pursuing.

NEW PERSONNEL

In 1984 the Bureau achieved legislative success with the creation of an Assistant Chief Fire Warden's position with the passage of the 1985 budget.

This position will enable the Bureau's to expand its training, prevention program and continue to administer the Federal Excess Property Program.

Our second legislative success was the increase of our 01 cap from 71 to 74 positions with addition of three Conservation Helpers to fill the voids at Sunderland Tower, Sharon Tower and the Brushbreaker at Myles Standish State Forest.

The Bureau received support from a great many people enroute to the final passage of the budget and we are most appreciative of the help received.

SUPPRESSION

Although this was considered a quiet forest fire season by past statistical standards our Bureau still plays a very important role in assisting many rural fire communities in forest fire suppression. On occasion, during multi alarm fires our personnel assisted in the suppression of spot fires that endangered woodlands. They also, supplied water as part of the tanker shuttle to maintain adequate supplies for extinguishment.

This past fiscal year our statistical report shows we responded to 975 requests from local Fire Chiefs, this included use of fire personnel, equipment, vehicles, pumps and hose. District #10 assisted 280 times, District #11 243 times, and District #14 162 times. The statistics certainly point to the fact that rural fire communities depend a great deal on the Bureau's fire response capability.

Another important statistic to the communities is our tower detection system which we relay to the towns the exact location of detected fires which create an immediate response time by the R.F.D.'s. We detected and reported 1,619 fires. Districts #1, #2, #3 and #4 towers played major roles in this category.

On May 3 the Bureau's fire personnel from Districts 2,3 and 4 responded to a large fire in the Blue Hills Reservations. Our tank trucks, power wagons and tankers played a major role in suppressing this wildfire which threatened lives, property and the safety of motorist travelling route 128. In the three days it took to contain this fire over 120 acres of woodlands were burned.

FEDERAL EXCESS PROPERTY PROGRAM

The Federal government authorized the Department of Agriculture-the United States Forest Service to enter into an agreement with the Commonwealth of Massachusetts and its designee, the Department of Environmental Management, Bureau of Fire Control, to administer the Excess Property "Pass Through" Program. This program has generated a tremendous amount of interest and participation from the rural fire communities in the Commonwealth.

Since the inception of the program in November of 1980, 148 rural communities have entered into agreements with the Bureau of Fire Control to accept federal excess property under the terms set forth by the U.S. Forest Fire Service, the General Service Administration, and the Massachusetts Bureau of Fire Control. This reflects an increase of 21 communities from fiscal 1983.

During this past fiscal year we acquired 650 cases of cotton gloves at 120 pairs per case. Each rural fire community in our program received a case of gloves. The gloves can be used in all phases of fire control. Twenty-five (25) fire communities received large pieces of fire equipment and vehicles which can be converted into fire fighting apparatus. Included in this transfer of property at no cost to the community was a \$34,802.00 tanker trailer with a 5,000 capacity tank to the town of Boylston. A fire truck valued at \$38,950.00 dollars to the town of Princeton, a 2½ ton rack truck to the town of Ware valued at \$7,426.00 dollars, the town of Rehoboth received a \$17,000.00 dollar tank truck the town of Sterling received a \$4,000.00 dollar fire pumper truck, a \$7,682.00 dollar semi-trailer tank truck was transferred to Lakeville, a dump truck with value of \$6,438.00 was transferred to Freetown, Brimfield received a 1½ ton 4WD cargo truck to be converted to fighting forest fires, this had a value of \$4,151.00 dollars. We transferred desks, chairs, filing cabinets, tools generators, compressors, lockers, typewriters, pumps, trailers and many property items beneficial to the communities in fighting wild fires and structural fires.

This past fiscal year the Bureau screened and acquired \$572,854.00 dollars worth of federal excess property that was transferred to fire communities and to the Bureau of Fire Control fire districts.

In District 8, Region #3 two excess property vehicles were rehabilitated into first class fire fighting vehicles at a cost to the Commonwealth of only \$850.00. All body, paint and mechanical work was performed in District #8 by the Bureau's fire personnel.

In District #3 an excess property rack truck was refurbished, spray-painted red, and mechanically repaired into an outstanding piece of rolling stock for all types of uses.

In District #6 a 5 ton truck tractor was refurbished by the Region mechanic and the fire personnel into a top notch fire vehicle.

In District #5, a tank truck acquired from the air base in Brunswick, Maine, was rehabilitated into a classic fire tanker, received first prize in a fire demonstration contest in Essex County.

The process of acquiring material starts with the Fire Chief of a town when he submits his letter requesting participation together with his prioritized list. Request for equipment must be accompanied with a justification sheet which indicates the need for and how it will benefit his community and how it will be used and garaged. We then send the Chief a copy of our agreement which he signs and returns for the signatures of the Director and Commissioner.

When the desired item is available and the Chief agrees to accept it, an addendum is filled out with the pertinent information of the item and signed by the Chief. Copies of the agreement, addenda and receiving GSA copy are sent to the Chief, District Fire Warden and Excess Property Coordinator with the original remaining in the Boston office.

The in-house machinery to administer the program includes five Regional Excess Property Coordinators who have the responsibility of maintaining the flow of records from the field to Boston in the same way the flow is from Boston to the Excess Property Coordinators.

The District Fire Wardens have direct contact with their Fire Chiefs and he in turn will start the process from the town to the Regional Coordinator.

The Bureau has administered the Excess Property Program since the 1960's when the U.S. Forest Service enabled the states to use their high federal priority to acquire property that would improve the state's fire protection capabilities.

The present dollar value of our Excess Property Inventory is over \$2,257,672.00 an increase of \$572,854.00 from fiscal 83.

PRE-SUPPRESSION-CONSTRUCTION-MAINTENANCE

This past fiscal year vandalism, destruction and theft was a major problem of our detection network. Many tower cabins had to be rehabilitated due to this dilemma. A new tower cabin had to be constructed at Savoy Mt. Antennas, cable, radios and sighting equipment had to be replaced. Estimated \$10,000 dollars worth of damage and theft was reported. All repair and construction work was performed in-house by the Bureau's construction and maintenance crew headquartered at Brimfield State Forest.

The following list indicates our concerted effort in preventive maintenance on many of our 53 towers in the Commonwealth:

1. Andover - New micro-wave antenna installed
2. Sharon - Roof repaired
3. Charlton - Repaired roof and telephone lines
4. Princeton - Installation of antennas
5. Fall River - New roofs, electrical service installation

6. Rehoboth - New roofs
7. Acushnet - New roofs
8. Holbrook - Repair gunshot plate, welded stair bracket, cross braces and stair treads
9. Goshen - Repair of power lines to tower
10. Chelmsford - Fence repair and installation of barb wire.
11. Monterey - Repaired power lines to tower
12. Mendon - Installed new stair treads
13. Ludlow - Repaired telephone lines

The construction crew worked many man hours in many state parks throughout the five regions. Included were power line construction, telephone line construction, refurbish Skinner Summit house, weatherization project at Brimfield, fabricating tower cabins at Brimfield, fabricating fireplace grates, installed antenna on Saltonstall Building, fence repairs at Holyoke, electrical wiring and new power line at Savoy campground and Naturalist building.

The construction crew performed many specialized construction projects which enabled the Division to save thousands of dollars in labor if otherwise contracted out to private corporations.

The Bureau's fire personnel spent considerable man hours maintaining and servicing and constructing fire roads on state owned land. Over 284 miles of road work was performed during the off-fire season. This was an increase of 15.25 miles from the previous year. Many man hours were performed dredging cleaning and clearing many fire ponds and water holes.

This past recreation season the Bureau's fire personnel assisted many recreation sites in preparing for the summer recreation season. Many areas were unable to hire seasonal personnel until late into the season due to budgeting constraints. By the same token during the fire season the Bureau received cooperation from the other Bureau's in fire control activities.

RURAL COMMUNITY - FIRE PROTECTION PROGRAM

The Massachusetts Fire Academy provides fire training for 198 communities with a population of under 10,000 people. The Academy comes under the auspices of the Department of Education. A Training council of five members appointed by the Governor regulates the training schedule for the Academy. The Chief Fire Warden of the Bureau of Fire Control, Division of Forest and Parks, Department of Environmental Management is a council member.

The Rural Community Fire Protection Act provides additional funding to fire departments with the responsibility of protecting communities with a population of 10,000 or under. It is specifically designed to provide some additional financial assistance to these departments to aide in insuring an adequate level of performance. Prior to 1980 - 1981, this funding was traditionally utilized toward the maintenance and/or purchase of equipment or apparatus to assist departments to cover unprotected or poorly protected rural areas.

In 1980 the Department of Environmental Management, through their Bureau of Forest Fire Control, surveyed the 198 RCFP fire departments in Massachusetts regarding their opinion of which direction the grant should take to fulfill their needs. Of the surveys which were returned, all but one indicated a preference for the money being applied to supplement local training efforts in place of the traditional equipment expenditures. Additionally, approximately 75% of the respondents indicated that their needs were in the areas of basic fire-fighting techniques.

The Department of Environmental Management entered into an agreement with the Massachusetts Fire fighting Academy to provide additional training to the eligible communities. Since the time of the original grant, the Academy has utilized that funding to supplement training to the RCFP departments beyond what the Academy's normal budget would have allowed, and has provided a system to better assess the training needs of those departments.

Several points should be considered in any discussion of the Academy's past performance concerning RCFP as well as any future direction for that funding.

1. Department Training

The total amount of funding each year through the Rural Community Fire Protection Act is not a static amount of money. Available monies change from year to year based on any number of considerations. Of the three years in which the Academy has been involved, the funding for the first year (1980 - 1981) was the largest amount, \$27,900. If that amount had been divided among the total eligible RCFP departments (198), it would have worked out to \$140.90 per department. The academy proposed to provide 40 additional programs of varying length to the RCFP departments under the stipulations of that first year's grant. At the conclusion of that fiscal year's grant period, under a matching funding system, the Academy was able to provide 119 programs at an average cost per program of \$350 per program. In the two following years, during each grant period, despite a reduction in the actual funding amount, the Academy has continued to increase both the number of programs proposed and the actual number of completed programs which represents an increase in the absolute percentage of available funding provided to each department.

2. Program Commitment

As stated above, the Academy has consistently exceeded the requirements of each year's grant proposal. Obviously, the number of committed programs depends, to a large extent, on the requests of the department; but the Academy has made a serious marketing effort to first make each eligible department aware of the options available under the revised grant and secondly to encourage participation by departments.

3. Survey Adherence

The original survey gave some moderate direction to both the Department of Environmental Management and the Massachusetts Firefighting Academy for a need for supplemental training assistance and a need for that training to be in the areas of basic firefighting techniques.

Again, the actual programs committed will continue to depend, to a large extent, on the department requests, but the Academy staff has worked to develop a system by which those needs are continuously assessed and met. During the year of the program, 84% of the programs completed were in the basic areas.

4. Needs Assessment

The original survey was completed during 1980 and it would be unreasonable to assume that the needs of any one department or the RCFP community as a whole would have remained static since that time. It is important that, while the bulk of the efforts of the Academy during a given grant period remain the actual commitment to programs, it is just as important that those programs accurately reflect the needs of the departments. For that reason, the Academy has developed the "Training Committee" concept to provide them with an accurate representation of any area's particular needs and concerns. Working with a staff member who serves as a liaison to the various training committees throughout the State, the Academy continues to update and/or develop programs based on information provided us through the committees.

The Academy has not only met but exceeded the requirements and stipulations of the Rural Community Fire Protection grants since our involvement since federal fiscal year 1981. The continued utilization of the training committee system along with a department's commitment to continued training should insure the uninterrupted success of the RCFP Program.

A separate accomplishment report by the Massachusetts Fire Academy is included in this report.

RCFP - FIRE ACADEMY

ACCOMPLISHMENT REPORT

For Period - July 1, 1983 to June 30, 1984TOWNS SERVED

79

PROGRAMS

119

STUDENTS

2,202

SMOKEY THE BEAR'S 40TH BIRTHDAY

On April 30th, Massachusetts was the recipient of a visit by Smokey the Bear via Vermont. We were the fourth Northeastern state to honor Smokey's 40th birthday celebration with a "Barnstorming Tour Caravan" from the Berkshires to the South Shore, culminating in Boston with a visit to Boston City Hall with Mayor Flynn and an audience with Governor Michael Dukakis. The Federated Garden Clubs Smokey the Bear Poster Contest winners were also present to receive their poster citations from the Governor. Smokey was the creation of Rudy Wendelin, a Forest Service employee whose idea in 1946 became the symbol of forest fire prevention for the nation.

Smokey received proclamations and keys to the cities from North Adams, Adams, Westfield, Worcester, Fall River, New Bedford, Brockton and Boston. Smokey entertained many school children during this tour. The highlight of the caravan was an appearance at the Shriners Burn Institute in Boston to the delight of many burn victims.

In August Smokey will be honored by the U.S. Postal Service with a stamp commemorating his 40 years of existence.

PREVENTION

The Bureau of Fire Control personnel receive many requests to visit elementary schools throughout the year. With Smokey in attendance our personnel presented many seminars pertaining to fire prevention in an educational atmosphere. This Program has proven very beneficial in acclimating our younger generation in the practice of fire prevention at a most critical state of their inquisitive life.

Smokey has played a major role in reducing forest fires over the past 42 years. In 1942 more than 10 million acres of our woodlands were burned or destroyed. In 1983 only 3 million acres were reported burned. This was a saving to the American public of over 20 billion dollars.

Another important prevention program is the issuing of criminal citations and warnings to individuals in violation of the Massachusetts Forest Fire Rules and Regulations and Chapter 132, M.G.L., pertaining to Forest Cutting Practices. We issued 364 citations and warnings in fiscal 1984. District 8 Fire Warden and Region III Foresters were responsible for the first conviction of a logger responsible for violating the Wetlands logging section of Chapter 132.

The inspection of logging operations takes up a great deal of the District Fire Warden's and Forest Fire Patrolman's work day. The new Forest Cutting Practices Law has increased the responsibility of these key personnel. In Fiscal Year 1983, we had 1,067 logging operations. This past fiscal year we inspected 1,876 logging sites. This increase of 809 inspections reflects the active role the Bureau is playing to insure that the letter of the law is followed on Commonwealth and private landowner woodlots. Fire District #12 experienced the largest increase in inspections over Fiscal Year 1983. The inspection system serves a two-fold purpose; it establishes uniform fire minimizing standards with loggers, and it familiarizes our fire personnel with fuel conditions and terrain they might not ordinarily be aware of.

The Bureau continues to regularly distribute fire prevention and training materials to the Fire Districts for integration into their programs.

Committees have been formed to coordinate the various responsibilities of the Bureau. They include: Training, Prevention, Federal Excess Property, Weather, Communication, Inventories, Reports, Equipment, Law Enforcement, Safety, Supplies and Uniforms.

Though there have been restraints throughout the Commonwealth due to budget cut-backs, this has been a very positive year in all phases of forest fire activity.

PRESCRIBED BURN

On February 22, 1984 the Bureau of Fire Control assisted with the prescribed burn at the Camp Edward Impact Range. The fire personnel from Region I and other Division of Forests and Parks personnel manned the fire equipment at the scene. The area burned consisted of 700 acres that were not burned in the 1983 burn when time constraints and weather conditions precluded burning of the original 1,300 acres that were targeted at that time.

The burn was estimated to be 75% successful despite a frost the night before which delayed the start of the exercise until 12:30 p.m. to take advantage of the drying effect of the sun.

PREVENTION AND TRAINING

The training of Bureau personnel is an on-going program within the individual fire districts to sharpen the skills and improve the fire behavior knowledge of the year-round and seasonal personnel. Training sessions have also been conducted inter-district to familiarize personnel with specialized equipment, fuel load and/or topographic characteristics that may vary from one district to another.

Statewide training was instituted for Division personnel to qualify them as inter and intra state fire fighting crews. Instructors were drawn from the Department's branches utilizing their expertise wherever called for in the lesson plans of the Basic Firefighter and Fire Behavior Courses.

The Bureau of Fire Control in conjunction with the United States Forest Fire Service and its Northeast neighbors attended various conferences, seminars and training sessions during the past fiscal year.

The Northeast Forest Fire Protection Commission is comprised of Forest Fire personnel and equipment from Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, Vermont and the Provinces of Quebec and New Brunswick from neighboring Canada. This commission is referred to as the "Compact".

Whenever a wild forest fire rages uncontrolled and threatens to exceed resources of a member state, other member states are prepared to respond with fire personnel and fire apparatus to assist in the suppression of wild forest fires.

Annual training exercises are held in February to instruct compact crews in the latest advances in forest fire control and how to react to emergency responses.

The Northeast Forest Fire Protection Commission annual meeting was held in West Lebanon, New Hampshire on February 7 through 9. The Chief Fire Warden, Assistant Chief Fire Warden and Districts 9 and 11 District Wardens attended this session. This year's theme was "Fire Prevention - Tools for the Fire Preventor".

The highlight of the meeting was a film review of the summer fire line construction exercise held in New Hampshire. The Bureau was well represented by four of our fire personnel. A controlled burn situation was created to show how fire vs. fire can extinguish an on-going wild fire. The critique on back-firing was very informative and educational.

John Barracato, former Chief Fire Marshall for New York City gave a dissertation on "The Fire Fighter as a Fire Setter". His investigative talents on arson are highly respected nation wide.

The Province of Quebec, Canada, a Compact Commission presented a seminar on the various prevention programs that are used extensively through the province.

The NFFPC equipment committee met in Windsor Locks, Connecticut July 5 through 7 for their annual meeting. District 9 Fire Warden William Bennett was elected chairman of the equipment committee. In June of this year the Bureau

hosted a NFFPC equipment seminar at Hawley State Forest. All Equipment targeted for Compact use was inspected and reviewed. He also represented the Commission on a visit to Hartford, Connecticut to review Connecticut's fire equipment preparedness to Compact's Emergency Response. Warden Bennett attended the Northeast Wild Fire Suppression Equipment Conference in Sacramento, California. This included training techniques with modern forest fire equipment and fire apparatus. Chief Castro attended the Northeast Fire Supervisors annual meeting in Traverse City, Michigan June 25-28. Highlight of the conference was a visit to the RossCommon fire equipment development center. Modern innovations in fighting wild fires were discussed and reviewed. As a member of the NFFPC equipment inspection team, Chief Castro visited the state of Rhode Island to review the states program pertaining to preparedness capabilities for that state to comply with Compact's emergency readiness fire alert.

The Chief Fire Warden attended the NFFPC Fire Supervisors meeting in Windsor Locks, Connecticut to for instruction and briefings on the Economic Analysis report which will be compiled for future federal grant eligibility for our Bureau. Mr. Jack Horton of the USDA Forest Service presided.

The Bureau hosted the National Fire Protection Association Wildlife Committee field trip to Myles Standish State Forest on June 6, where a brushbreaker demonstration was held. Chief Farrington of the town of Centerville-Osterville presented a slide program at Barnstable Fire Academy on Brushbreaker tatics and fire behavior. The Committee also toured the fuel modification project at MSSF.

A Brushbreaker training exercise was held in Duxbury, MA for all Region I fire Personnel and communities in Norfolk, Plymouth, Bristol and Barnstable counties on March 26, 1984.

SAFETY COMMITTEE

A state safety committee comprised of Bureau Chiefs and chaired by Chief Castro was established by Director Bliss to formulate safety procedures and safety practices throughout the Division of Forests and Parks. The subcommittee members are: Assistant Chief Patsy Bisceglia, Robert Freedman, Douglas Trefrey and Todd Lafleur. Safety inspections forms and safety deficiency reporting forms are being formulated by this committee to monitor overall statewide safety practices. Each regional supervisor has appointed a regional safety officer and a regional safety committee consisting of a member from each Bureau under the Division of Forests and parks with representation from the 3 bargaining units representing all division personnel.

The State Safety Committee, was responsible for implementing this new program in the five regions of our Division. Several meetings were held with all regional committee members in order to generate safety standard responses pertaining to the safety practices that were formulated by the State Committee. Ten thousand dollars from the rollover account was apportioned to all five Regions to purchase safety equipment needed in day to day operations. Priority safety items included fire extinguishers, first-aid supplies and safety equipment and safety gear for chain-saw operators.

Chairman Castro initiated a Safety Education Sub-Committee, comprised of regional safety committee members to keep the State Committee informed on educational safety standards necessary in implementing this program. The subcommittee outlined four methods to improve safety standards state-wide. This included supervisory training, safety orientation for new employees, sustained safety training, and special emphasis programs. Safety posters and slogans were printed and distributed to all Regional Chairmen.

The Safety Program was long overdue. The preliminary results indicate a decrease in job related accidents thus far this year.

DETECTION

The detection system in Massachusetts is still provided by a combination of aerial observation and ground observation stations. In the counties east of Worcester County, ground observation stations are maintained and operated by the Commonwealth. This system is backed up during periods of high fire danger in Plymouth and Barnstable Counties by county-supported planes. In the western counties and including North Worcester County, a combination of ground observation and aerial observation are utilized and supported entirely by the state.

The past flight pattern for DEM Region III, Southern Worcester County, has been eliminated in order to increase the frequency of aerial detection flights over Northern Worcester County which has a high forest fire frequency. There were two additional towers manned in South Worcester County in order to shorten flight patterns. Flight pattern #3 limitations includes West Boylston to Fitchburg, northwest to Royalston, and South to Hardwick, all in the Northern Worcester County.

Flight pattern #4 in Franklin, Hampshire and Hampden Counties, DEM Region IV, has been similarly condensed from an "A" type aerial flight pattern to rectangular flight pattern. This extends from Russell in Hampden County north to Leyden in Franklin County, Northwest to Heath in Franklin County, and proceeds south to Blandford in Hampden County.

Flight pattern #5 in Berkshire County, DEM Region V remains the same as in the past. From New Marlboro, North to Clarksburg, Northwest to Williamstown, it then proceeds South to Sheffield. On extreme fire danger days a fourth flight pattern will be activated between Northern Worcester County and the existing flight pattern in Region IV. This in effect will give us the maximum Forest Wild Fire protection for our woodlands.

Aerial detection has not proven to be the answer in our western counties.

A recent survey of the fire departments of 5 counties has revealed an overwhelming preference for towers over planes. The only county to indicate any satisfaction with aerial detection were some fire departments in the Berkshires. This is attributed to their sparsely populated county where the numbers of fire starts are fewer than the other heavily populated counties.

We do spend considerable time training fire tower observers and to pinpoint the exact location of fires. This vital information is relayed to the rural fire dispatchers who in turn activate the suppression forces in their particular town.

The Bureau plays a very important role in assisting many small rural communities in all types of wild fire training. Immediate detection and response to incipient wild fires contributes to the reduction of acres burned and property loss.

In keeping with Director Bliss' request for sustained fire patrol activity, the Bureau's Forest Fire Patrolmen have logged a total of 460,465 miles.

The Bureau has issued 364 citations for cutting practice and logging violations.

Fires (Size by District)

June 1983 - May 1984

District	A	B	C	D	E	Total
#1	274	31	1	-	-	306
#2	521	96	2	-	-	619
#3	262	279	5	-	-	546
#4	377	140	7	1	-	525
#5	250	74	23	-	-	347
#6	160	238	7	-	-	405
#7	134	167	7	-	-	308
#9	126	36	-	-	-	162
#8	364	124	3	-	-	491
#10	213	148	4	-	-	365
#11	512	151	4	-	-	667
#12	51	74	6	-	-	131
#14	221	202	7	-	-	430
Total	3,465	1,760	76	1	-	5,302

Summary by Month

June 1983 - May 1984

Month	No. Fires	Acres	Cost
June	220	156.40	\$ 17,246.58
July	844	869.20	107,224.30
August	547	750.45	59,131.78
September	376	253.	38,190.78
October	280	132.20	14,251.41
November	214	78.45	10,809.80
December	20	5.15	882.00
January	30	10.20	1,084.50
February	125	120.15	6,507.55
March	291	207.50	18,144.35
April	1,473	1,298.25	110,581.79
May	882	1,287.85	82,736.28
Total	5,302	5,168.80	\$ 466,791.10

094

Acreage by Causes

June 1983 - May 1984

[illegible]

[illegible]

Acres Burned (Type of Area)

June 1983 - May 1984

District	Comm. Forest	Non - Comm. Forest	Nonforested Watershed	Non - Forest	Total
#1	-	133.50	-	-	133.50
#2	-	246.50	2.00	.75	249.25
#3	69.00	65.35	5.05	372.70	512.10
#4	308.75	527.50	-	7.00	843.25
#5	119.00	404.00	-	275.50	798.50
#6	6.25	417.75	-	48.50	472.50
#7	136.60	216.50	2.25	88.25	443.60
#8	31.50	166.35	5.75	92.50	296.10
#9	58.30	35.05	-	-	93.35
#10	140.10	115.25	4.25	76.45	336.05
#11	115.45	166.75	1.60	71.25	355.05
#12	59.25	41.75	.50	85.75	187.25
#14	211.70	190.30	1.50	44.80	448.30
Total	1,255.90	2,726.55	22.90	1,163.45	5,168.80

Summary by Districts

June 1983 - May 1984

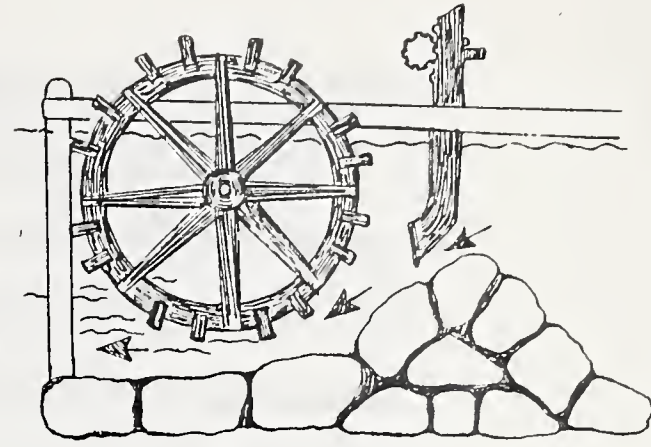
District	No. Fires	Acres	Cost
#1	306	133.50	\$ 38,160.70
#2	619	249.25	25,241.20
#3	546	512.10	41,847.90
#4	525	843.25	27,417.00
#5	347	798.50n	36,671.00
#6	405	472.50	33,097.00
#7	308	443.60	31,332.00
#8	491	296.10	43,952.24
#9	162	93.35	14,190.90
#10	365	336.05	60,724.63
#11	667	355.05	35,127.00
#12	131	187.25	18,752.00
#14	430	448.30	60,277.53
Total	5,302	5,168.80	\$ 466,791.10

Summary by Causes

June 1983 - May 1984

Dist.	Light	Camper	Smoker	Debris	Incen-Diary	Equip. Use	R.R.	Child-ren	Misc.	Total
#1	2	33	63	42	45	20	-	75	26	306
#2	1	20	31	93	154	6	-	150	164	619
#3	-	8	33	95	199	8	-	164	39	546
#4	-	7	23	40	182	7	1	236	29	525
#5	-	32	17	45	60	-	-	148	45	347
#6	-	5	8	24	27	3	1	266	71	409
#7	-	8	9	63	80	1	2	120	25	308
#8	2	19	27	115	38	11	38	148	93	499
#9	-	6	11	51	17	13	39	25	-	167
#10	-	36	55	107	53	16	11	86	1	365
#11	2	50	37	192	92	13	18	247	16	667
#12	-	-	-	27	84	1	5	13	1	131
#14	-	6	12	19	99	2	-	292	10	430
Total	7	230	326	913	1,130	101	115	1,960	520	5,306

ANNUAL REPORT
FISCAL YEAR 1984
BUREAU OF URBAN SERVICES
ROBERT E. FREEDMAN, CHIEF



INTRODUCTION

Fiscal year 1984 was a significant year for the Bureau of Urban Services since it marked the opening of the first of the new Heritage State Parks: Holyoke Heritage State Park was dedicated by Governor Dukakis on June 21, 1984. Park staff were authorized in the FY 1984 budget and interviewing and hiring took place in the late spring. Interviews and appointments of supervisory personnel also occurred in the spring for the Fall River, Gardner, and Lawrence parks, all of which are scheduled to open during FY 1985. Five Park Supervisors were named and appointed in June.

LOWELL BOATHOUSE OPENS

Another major addition to the Heritage State Park system occurred in Lowell during the spring - the Lowell Heritage State Park boathouse was completed in May and the University of Lowell rowing program and Greater Lowell community sailing program moved in and began operations. Both groups are under agreement with the Division of Forests and Parks to provide public boating programs for park visitors. The University conducts its collegiate program during the fall, winter, and spring and teaches skills and techniques of rowing to the general public in the summer. Over thirty people signed up for the summer program and received instruction every day from Monday to Friday, from 4:00 - 7:00 pm. Participants will also get a chance to row in three competitions that will be scheduled by the University during the summer.

PARK VISITATION INCREASES

Lowell Heritage State Park, considered the "flagship" of the system, completed its fourth full year of operation in FY 1984 and hosted the highest number of park visitors to date - over 180,000 Massachusetts residents and out-of-state tourists. The guided Waterpower Tour was attended by 1,025 visitors and 29,483 were delighted by the Division's "Living History" program which is conducted by costumed visitor services personnel at various stops along the National Park's Mill and Canal Tour. The "Summer Seminar Series", sponsored by the visitors services section, was one of several programs conducted in the park Visitors' Center. The Center was also used for thirty-eight meetings (2,280 attending) scheduled by various historic, civic, and recreational groups and organizations from the Lowell area. The Visitors' Center was in a state of transition during the year as construction got underway to adapt the building for the installation of the new Waterpower Exhibit scheduled to open in the fall of 1984.

The Vandenberg Esplanade, the riverfront park component of Lowell Heritage State Park, is becoming a popular attraction as more and more activities are scheduled at the Sampas Pavilion's performing arts stage. Over 35,000 people attended several events at the stage, while the adjacent Merrimack River was the location for 3 power boat races drawing over 2,500 spectators.

FURNISHINGS AND EQUIPMENT BUDGET APPROVED

In addition to budget approval for new personnel to operate and maintain the parks, the Legislature approved 1½ million dollars in the FY 1983 Capital Outlay Budget for furnishings and equipment for the Heritage State Park system. The Bureau can not order any items until "schedules" are approved by the Ways and Means Committees.

PARK DESIGN REVIEW

The Bureau continued to review plans and specifications for the design and construction of new Heritage Parks, or later phases of parks already under construction. Design input was provided for: the Gardner Visitors' Center, the Dunn's Park Service Building, the North Adams Visitors' Center and site design, the riverfront park in Lawrence (a 30 acre parcel on the south side of the river to be acquired as part of the Heritage State Park), Marlborough Heritage State Park, Roxbury Heritage State Park, and designs for interpretive exhibits for the Fall River, Holyoke, North Adams, and Lawrence parks.

TECHNICAL ASSISTANCE TO MUNICIPAL AGENCIES

Technical assistance to cities and towns in the area of parks and recreation management is an informal program of the Bureau at this time (several positions have been requested to administer this program). Assistance projects during FY 1984 included: establishment of a community garden in Lowell; design of a town beach in Swansea; advice to the City of New Bedford with regard to funding sources for park restoration. The Bureau also represents the Department at meetings and functions of the Massachusetts Recreation and Park Association.

ACQUISITION STATUS

Three new properties were added to the urban park facilities that fall under the jurisdiction of the Bureau. Plymouth Rock (now Pilgrim Memorial State Park) was transferred from the Division of Waterways (a DEM agency) during FY 1984. The park, one of the most popular tourist attractions in New England, underwent several physical improvements by Region 1 personnel before opening as a State Park in the Spring of 1984. Trees were pruned, grass planted in several areas,

unsightly plantings and fences removed, and attractive informational and directional signs installed. At the present time, several more improvements on a larger scale are being planned as a joint contractor - Region 1 effort (repairs to the structure protecting the Rock, improved pedestrian lighting, improved bus parking, realignment of walkways, etc.). The Office of Interpretive Services provided quality interpretation of the natural and historic features of the park and Town of Plymouth with uniformed park interpreters. Other programmatic improvements will focus on the pier and the operation of the excursion boats and Mayflower II.

Acquisition of the Natural Bridge in North Adams was nearly completed this year. The park, another major Massachusetts tourist attraction, will become part of the Western Gateway (North Adams) Heritage State Park. Improvements will include an interpretive program, landscaping, and a small Visitor's Center.

The 182 acre Elm Bank property in Dover, owned by the Commonwealth and under the property management of the Division of Capital Planning and Operations (D.C.P.O.), was declared surplus by D.C.P.O. The Division of Forests and Parks plans to submit an application to acquire the property as a state park. The property, formerly the B.P. Cheney Estate, is situated along a beautiful stretch of the Charles River and will serve as a pleasant stopover for canoeists in addition to the variety of recreational trail and other activities that the property so readily lends itself to. Other potential program uses include a public - private venture for use of the mansion as an inn-hotel and a cooperative arrangement with the Regional Vocational School which currently leases a portion of the

property, where courses in landscape maintenance and horticulture could be offered with park as a "classroom".

A P P E N D I X

SUMMARY OF LAND ACQUISITION AND CONSTRUCTION

SUMMARY OF RECREATION REVENUE

SUMMARY OF RECREATION ATTENDANCE

SUMMARY OF ATTENDANCE AT FORMAL INTERPRETIVE PROGRAMS

SPECIAL EVENTS AT SKATING RINKS

NEW PROGRAMS - JUNIOR RANGER

SUMMARY

OFFICE OF PLANNING AND DEVELOPMENT - FISCAL YEAR - 1984

CONSTRUCTION AND O3 CONSULTANT CONTRACTS

<u>TITLE OF EACH CATEGORY</u>	<u>NUMBER OF CONTRACTS OF EACH CATEGORY</u>	<u>TOTAL DOLLAR VALUE OF EACH CATEGORY</u>
Appraiser	61	\$ 190,598.00
Title Examiner and Legal Assistant	32	213,861.00
Design, Studies and Exhibit Designers	2	224,500.00
Surveys (Land & Archaeological)	4	14,315.00
Construction	16	2,128,909.00
Resident Engineers & Planners	20	658,760.00
<u>TOTALS</u>		<u>COST = \$ 3,430,943.00</u>

<u>LAND ACQUISITION</u>	
<u>NUMBER OF PARCELS</u>	<u>TOTAL COST OF PARCELS</u>
57 Parcels	\$ 3,417,565.00
	GRAND TOTAL = \$ 6,848,508.00

Region	Forest/Park Reservation	Contract Number	General Contractor	Contract Amount	Contract Date	Scope of Work	Fiscal Year
I	Horseneck Beach State Reservation	110-83	Tilcon Massachusetts Inc.	\$ 25,485.	7/18/83	Paving Entrance Roads Horseneck Beach State Reservation	
I	Horseneck Beach State Reservation Gooseberry Point	118-83	Wallace Welding and Ornamental Iron Works	\$ 23,524.	11/21/84	Steel stairs & Slab cutting at Gooseberry Point, Horseneck Beach	
I	Borderland State Park	124-83	Mass Heating	\$ 7,132.	12/5/83	Boiler Renewal at Borderland State Park.	
I	Shawme-Crowell State Forest	112-83	Tilcon Massachusetts	\$ 8,610.	9/21/83	Roadway Entrance Paving at Shawme-Crowell	
I	Boston Harbor Island State Park Hewitts Cove	117-83	Doyle Chimney Roofing Co.	3,900.	7/27/83		
I	Boston Harbor Island State Park Hewitts Cove	113-83	Sacchetti Plumbing & Heating	17,490.	8/13/83		
I	Fort Phoenix State Reservation		M.C. Souza & Son	5,000.	6/1/84	Beach Area Restoration, Fort Phoenix State Reservation	
I	Boston Harbor I.S.P. Hewitts Cove	115-84	Ricciardelli & Sons, Inc.	\$2,950.00	8/19/83		

REGION	FOREST/PARK RESERVATION	CONTRACT NUMBER	GENERAL CONTRACTOR	CONTRACT AMOUNT	CONTRACT DATE	SCOPE OF WORK
II	Walden Pond	142-84	R.H. White	9,296.	6/19/84	Sewerage Pumping Upgrade
II	Lawrence Visitor Center	156-84	Raymond Monsour	\$ 1,137,794.	5/31/84	Construction of the Visitor Center
II	Higgins Pool	136-84	Johnson Bros., Inc.	12,436.	4/21/84	Concrete Deck Repair
II	Lowell Heritage State Park	120-84	Pilgrim Construction	427,640.	3/2/84	Siphon Construction and Canal System Restoration and Renovation.
II	Lowell Heritage State Park	105-84	New England Construction and Management Inc.	198,000.	3/5/84	Architectural Alterations at the Mack Building.
II	Lowell Heritage State Park		Empire Engineering	1,800.		HVAC repair.
II	Bradley Palmer State Forest	116-84	Fairway Roofing and Sheetmetal Co.	10,000.	9/14/84	Roofing and Skylight repairs.

ACQUISITION & CONSTRUCTION

FISCAL YEAR 1984

Land Acquisition - 7/1/83 to 6/30/84

LOCATION	AREA	GRANTOR	DATE RECORDED	ACREAGE	COST
Middlefield	Middlefield S.F.	Leo J. Vergnani	4/18/84	10,000. S.F.	300.00
Middlefield	Middlefield S.F.	Theodore & Mae Rasta	4/18/84	50,000. S.F.	1,500.00
Middlefield	Middlefield S.F.	Bernadette M. Reilly	4/18/84	23,344. S.F.	1,700.00
Middlefield	Middlefield S.F.	Avondo & McClellan	4/18/84	5,000. S.F.	150.00
Middlefield	Middlefield S.F.	Town of Middlefield (Paul Long)	4/18/84	5,000. S.F.	150.00
Middlefield	Middlefield S.F.	Nils & Mary Stasen	4/18/84	10,975. S.F.	9,500.00
Sturbridge	Wells S.P.	John F. Real	4/24/84	2.37. A	15,000.00
Hancock	Plattsfield S.F.	Murphy & Hannon	5/3/84	26. A	13,815.00
Lee	Beartown S. F.	Wayne K. McCormack	5/3/84	53. A	53,000.00
Washington	October MT.	Abderhalden	5/3/84	50. A	15,000.00
Sandisfield	Sandisfield S.F.	Nicholas & Alexander Hryckvich	5/3/84	90. A	85,000.00

ACQUISITION & CONSTRUCTION

FISCAL YEAR 1984

Land Acquisition - 7/1/83 to 6/30/84

LOCATION	AREA	GRANTOR	DATE RECORDED	ACREAGE	COST
Granby	Holyoke Range	Nerril B. Aldrich	1/30/84	(1.7A)	Easement
Westfield	Hampton Ponds	Jennie Payer	2/2/84	10,000 S.F.	33,000.
Brewster	Nickerson S.P.	Camp Monomoy Inc.	2/10/84	43.3 A	1,800,000.
Mount Washington	Appalachian Trail	McCabe & Vogel	2/23/84	11.98 A	5,000.
Windsor	Windsor S.F.	Jerry & Helena Webb	2/23/84	68. A	125,000.
Ipswich	Willowdale S.F.	Commonwealth	2/27/84	36.055 S.F.	Dispossession
Gardner	Gardner Heritage S.P.	First Safety Fund National Bank	3/1/84	160 S.F.	Easement
Leominster	Nashua River	Capital Planning & Operation		36,170 S.F.	Transfer
Bourne	Seausset Beach	Capital Planning & Operation		71.2 A	Transfer
Middlefield	Middlefield S.F.	Costello & Berlinger	4/16/84	12,800. S.F.	1,000.
Middlefield	Middlefield S. F.	Town of Middlefield Costello & Berlinger	4/16/84	5,000. S.F.	150.
Middlefield	Middlefield S. F.	Quinto & Elleen Avondo	4/16/84	10,000. S.F.	300.
Middlefield	Middlefield S. F.	Thomas F. Reldy	4/16/84	32,574. S.F.	2,200.

ACQUISITION & CONSTRUCTION

FISCAL YEAR 1984

Land Acquisition - 7/1/83 to 6/30/84

LOCATION	AREA	GRANTOR	DATE		ACREAGE	COST
			RECORDED			
Great Barrington	East Mtn., S. F.	Conan I. Caron	5/ 3/84		27. A	\$20,000.00
Mt. Washington	Appalachian Trail	Pauline Dombrowski	5/ 3/84		109.6 A	100,000.00
Fairhaven	Fort Phoenix S.P.	Commonwealth Electric Company	5/24/84		6.1 A	70,000.00
Hadley Northbridge	Holyoke Range Blackstone River S.P.	Charles W. Bowles Harold & Jeannette Youngsma	5/30/84 6/26/84		17.37 A 14.5 A	55,000.00 27,500.00
Lenox & Washington	October Mt. S.F.	Sulamith Sinzheimer	6/29/84		124.96 A	150,000.00

ACQUISITION & CONSTRUCTION

FISCAL YEAR 1984

Land Acquisition - 7/1/83 to 6/30/84

LOCATION	AREA	GRANTOR	DATE RECORDED	ACREAGE	COST
Warwick	Warwick S.F.	Murray & Beatrice Brown	7/21/83	145. A	21,000.
Princeton	Mt. Wachusett	Bancroft Little Field	7/26/83	21,344. S.F.	7,000.
Douglas	Douglas	McCann & Commonwealth	8/ 4/83	9,300. S.F.	Boundary l.
Westfield	Hampton Ponds	Edward & Olga Jedrykowski	8/ 4/83	9,300. S.F.	5,300.
Westfield	Hampton Ponds	Theodore & Jeannette Yvon	8/ 4/83	7,000. S.F.	39,000.
Westfield	Hampton Ponds	Melvin & Sheila Gould	8/ 4/83	10,000. S.F.	34,000.
Warwick	Warwick S.F.	Walter C. Jones	8/9/83	16. A	4,800.
Plymouth	Myles Standish S.F.	Charles & Carol Smith	8/8/83	7.8 A	-----
Granby	Holyoke Range	Edward H. Trompke	8/17/83	21.A	13,000.
Northbridge	Blackstone River S.P.	Celeste & Abrett I	8/24/83	8.9 A	9,000.
Westfield	Hampton Ponds	Juanita Gillison	8/25/83	6,700. S.F.	30,000.
Granby	Holyoke Range	Herrill B. Aldrich	9/21/83	266. A	200,000.
Westfield	Hampton Ponds	Frederick & Pauline Rivest	10/6/83	5,150 S.F.	29,000.
Salisbury	Salisbury Beach S.R.	Mary Salmons	10/11/83	7,500. S.F.	30,000.

ACQUISITION & CONSTRUCTION

FISCAL YEAR 1984

Land Acquisition - 7/1/83 to 6/30/84

LOCATION	AREA	GRANTOR	DATE		ACREAGE	COST
			RECORDED			
Westfield	Hampton Ponds	Georgette F. Robouln	10/14/83		27,700 S.F.	\$ 43,000.
Sturbridge	Wells S.P.	Bedgar Realty Trust	10/18/83		79.15 A	42,500.
Becket	Appalachian Trail	Sinram & Weller	10/18/83		107.7A	71,000.
Becket	Appalachian Trail	Moffat & Costello	10/18/83		2.67 A	10,000.
Becket	Appalachian Trail	John & Frederick Costello	10/18/83		9.41 A	12,700.
Lee & Washington	October Mountain S.F.	Commonwealth	12/21/83			Exchange
Lee	October Mountain S.F.	Town of Lee	10/21/83			Exchange
Ashland	Ashland S.F.	Commonwealth	10/24/83		3.5 A	Easement
Ashland	Ashland S.F.	Commonwealth & Ashland	10/24/83			MEM of Understand
Pittsfield	Pittsfield S.F.	Andrew & Robert Oleksak	12/13/83		128. A	78,000.
Williamstown	Mount Greylock S.R.	Arthur & Elizabeth Jacobson	12/13/83		137. A	110,000.
Williamstown	Mount Greylock S.R.	Larry & Nelle Moody	12/13/83		3. A	2,000.
Uxbridge	Blackstone River S.P.	Romeo & Myrtle Gervais	12/19/83		2.36 A	42,000.

FY 1984 SUMMARY OF REVENUE

AREA	DAY-USE	CAMPING	OTHER	TOTALS
BEACHES	523,230.25	465,001.00	20,213.75	1,008,445.00
FORESTS & PARKS	786,475.15	988,843.25	219,205.67	1,994,524.07
POOLS	75,230.00	-	2,533.45	77,763.45
RINKS	2,406,290.17	-	114,760.06	2,521,050.23
TOTAL	3,791,225.57	1,453,844.25	356,700.93	5,601,770.75

RINKS FY 1984

	CHILDREN	GROUP	ADULTS	SPECIAL EVENTS	RENTALS	SPECIAL WALK-INS	LOCKERS	CONCESSION	PAY PHONE	MISC.	JOGGING	TOTALS
AUBURN	5,011.00		8,555.00	1,509.25	135,096.67		895.50	2,290.00	32.14		5.50	153,395.06
BRUCKTON	7,022.00		7,348.00	3,092.00	151,275.75		975.25	13,216.00	49.51			183,778.51
FALL RIVER	5,268.00		6,684.00	4,301.50	131,300.00		1,374.30	6,278.65	47.47			155,253.92
FRANKLIN	7,079.50		7,857.00	9,728.50	159,020.50		784.75	13,700.00	94.17	4.25	47.50	199,116.17
GARDNER	3,632.50		4,133.00	2,633.50	97,878.00	28.50	302.75	1,600.00	18.62			110,306.87
GREENFIELD	3,486.00		2,930.00	1,492.00	76,981.25		107.00	2,500.00	30.81			87,527.06
HAVERHILL	4,037.00		2,328.00	1,247.50	97,420.00		409.75	3,758.02	18.36			109,218.63
HOY YOK	2,365.00		2,964.00	2,688.00	107,445.00		335.50	2,450.44	20.16			118,268.10
LOWELL	5,796.00		8,482.00	3,206.00	136,222.50		1,360.25	2,800.00	36.20			157,902.95
MARLBORO	3,054.00		5,755.00	2,927.50	109,781.00		636.97	2,648.00	30.98			125,633.45
NEW BEDFORD	3,498.50		5,410.00	7,790.50	127,360.00		771.00	10,737.00	121.96			155,688.96
NEWBURYPORT	5,677.50		6,680.00	9,859.50	140,875.00		557.68	4,100.00	51.63		64.00	167,873.31
NORTH ADAMS	2,612.00		3,029.00	2,671.50	50,796.50		269.35	1,905.50	.39			61,284.24
PEABODY	5,250.50		7,534.00	6,463.00	131,832.50		617.00	11,133.33	18.28			162,848.61
PLYMOUTH	5,030.00		5,927.00	5,248.50	126,165.00		952.00	3,440.00	48.95			147,611.45
SPRINGFIELD	2,797.00		5,008.00	614.00	114,757.00		389.75	4,100.00	19.98			127,685.73
TADUNTON	2,756.00		4,752.00	4,710.25	130,022.50		634.50	6,201.99	49.27			157,934.51
WOBURN	7,492.50		9,654.00	2,061.50	110,760.00		786.25	8,940.00	28.45			139,722.70
TOTALS	83,465.00		105,038.00	73,052.50	2,144,509.17	28.50	12,239.55	101,798.93	717.33	4.25	117.00	2,521,050.23

POOLS FY 1984

	<u>CHILDREN</u>	<u>ADULTS</u>	<u>PASSES</u>	<u>LOCKERS</u>	<u>PAY PHONE</u>	<u>CONCESSION</u>	<u>MISC.</u>	<u>TOTALS</u>
AGAWAM	2,799.50	1,902.00				226.55		4,928.05
ATLEBORO	2,809.50	1,951.50				200.00		4,961.00
BROCKTON	3,404.50	2,471.50				153.00		6,029.00
CHICUPEE	1,865.00	765.50			1.77	5.50	90.00	2,727.77
CLINTON	2,829.75	1,271.00	300.00			91.00		4,491.75
FALL RIVER	5,260.75	821.00		5.00				6,086.75
FITCHBURG	2,143.00	740.50				181.75		3,065.25
HOLYOKE	1,132.75	629.45				126.55	.05	1,888.80
LAWRENCE	4,223.00	1,188.50				226.26		5,637.76
LEOMINSTER	2,045.00	771.00				91.00		2,907.00
LOWELL	3,372.50	565.00				201.02		4,138.52
LUDLOW	1,938.25	531.00				176.55		2,645.80
MILFORD	3,504.00	1,499.50				264.00		5,347.50
SOUTHBRIDGE	2,414.25	596.55				5.50	.15	3,016.45
SOUTH HADLEY	1,715.75	1,377.50				5.50		3,098.75
SPRINGFIELD	1,532.75	198.00				5.50		1,736.25
WESTFIELD	2,578.25	963.50				193.55		3,735.30
WORCESTER #1	4,039.75	1,838.00		14.75			265.00	6,157.50
WORCESTER #2	3,053.25	2,107.50		3.50				5,164.25
TOTALS -	52,761.50	22,188.50	300.00	23.25	1.77	2,153.23	355.20	77,763.45

BEACHES FY 1984

	<u>PARKING</u>	<u>RECEIPTS</u>	<u>WALK-INS</u>	<u>SEASON PASSES</u>	<u>CONCESSION</u>	<u>LOCKERS</u>	<u>PAYPHONE</u>	<u>MISC.</u>	<u>BOYS</u>	<u>TOTALS</u>
FT. PHOENIX	7,701.00			4,880.00	156.76					12,737.76
HOPKINSECK	271,986.00	54,553.00	33.25	46,900.00	15,178.00	41.20	112.31		740.00	389,543.76
SAN ISIDORO	106,960.00	206,776.00		18,600.00	2,357.00		1,490.74	302.00	180.00	416,665.74
SCOTTSDELL	60,070.00	123,672.00		4,980.00	81.00		293.94	200.80	200.00	189,497.74
TOTAL	446,717.00	465,001.00	33.25	75,360.00	17,772.76	41.20	1,896.99	502.80	1,120.00	1,008,445.00

PARKS FY 1984

	PARKING	RECEIPTS	SEASON PASS	BUS	AULT WALK-INS	HOUSE RENT	CHILDREN'S ROL-UP	COTTAGE PERMITS	CONCESSION	MISC.	PIER PERMITS	GROUP	PAY PHONE	TOTALS
ALICE MORTILL	1,090.00		80.00						5.00					1,975.00
ASHLAND	4,200.00		2,500.00	80.00					176.90					6,956.90
ASHURE LAKE														2,100.00
BAUTOWN	4,752.00	5,502.00	1,620.00	00.00	20.50	665.50			5.50					12,685.50
CHURCH ROAD						2,184.00								2,184.00
BUSSTON HARBOR ISLAND										2,100.00				2,100.00
BRADLEY PALMER	0,283.00		600.00	20.00	60.00	2,928.00			150.00			1,110.00		13,239.00
BUTCHVILLE	2,702.00		380.00											2,582.00
CARLE ISLE						4,406.50				2,015.75				6,422.25
CHESLER LAUREN R	2,583.00	275.00	40.00		81.25									2,979.25
CHICUMPEE	20,450.00		5,900.00	00.00	37.50		12.15		276.55					30,756.70
CLACKAMUNG	2,976.00	3,765.00	1,180.00	20.00	35.50		24.30		11.00	300.00				8,311.80
CLINTONDALE	83,619.00	17,540.00	17,540.00	720.00	859.25				6,722.98					111,449.23
C. A. R.	15,864.00	21,735.00	4,040.00						409.15					39,668.15
DEAN POND (BRIM FLO)	6,429.00		1,800.00	40.00	35.00				5.50			168.00		8,557.50
DE HARVEST LUND	21,150.00		4,700.00	80.00					203.71					26,133.71
DEHUN RICK	1,404.00		400.00	80.00										1,884.00
DOUGLAS	28,275.00		5,540.00	240.00					76.50					34,131.50
EDVING	12,750.00	8,010.00	5,060.00	80.00	125.00				300.00	183.00				26,508.00
EDU RATIO WIKEN'S														0
ELE TING	2,451.00		1,800.00	60.00		960.00								5,271.00
GRANVILLE	2,841.00	4,405.00												6,846.00
HARBOR POND	23,885.00		5,900.00		667.75	1,287.00	.45		500.00					31,040.20
HARBOR PARKER	17,960.00	63,949.00	780.00						181.50	180.79			6.20	78,017.49
HILLMAN POND	4,110.00		720.00	20.00					5.35					4,855.35
IMPKHITTEN	76,750.00		22,100.00	700.00					6,375.00					106,813.00
LAKE DENNISUM	5,565.00	37,182.00	840.00						115.00			744.00		43,702.00
LEONSTER	13,590.00		5,360.00	60.00	51.50									19,161.50
MARTIN'S VINE YARD						648.00								648.00
MASSACOTT	6,658.00	55,039.00	1,620.00						246.50				79.50	63,639.07
PHANAP TOAH	1,852.00	21,810.50	360.00											26,022.50
PL. GRATE	1,009.00		160.00											1,269.00
PL. CHESTOCK	519.00	7,135.00		40.00					23,125.00	11,818.60				42,637.62
PL. WASHINGTON		608.00												608.00
WYLLS STARDISH	32,420.00	147,487.00	1,500.00	520.00		1,614.00			2,066.05	300.00			400.00	222,368.50
WICKHESSE		281,101.00				250.00			2,633.33	612.34			1,582.80	286,179.51

1984 FISCAL YEAR
ATTENDANCE RECORD

AREA	CAMPING	DAY-USE	NON-PAID	PAID	TOTAL
AMES NOWELL	-	6,551	5,399	1,152	6,551
ASHLAND	-	18,942	12,572	6,370	18,942
BEARTOWN	6,795	34,969	27,602	7,367	41,764
BLACKSTONE	-	-	-	-	-
BORDERLAND	-	46,156	46,156	-	46,156
BOSTON HARBOR ISLANDS	3,415	30,469	30,469	-	33,884
BRADLEY PALMER	-	61,562	51,831	9,731	61,562
BUFFUMVILLE	-	11,817	7,747	4,070	11,817
CALLAHAN, RAYMOND J.	-	26,225	26,225	-	26,225
CAMPBELL FALLS	-	2,108	2,108	-	2,108
CAPE COD RAIL TRAIL	-	144,586	144,586	-	144,586
CATAMOUNT	-	-	-	-	-
CHESTER - BLANFORD	402	4,292	4,106	186	4,694
CHICOPEE	-	93,028	37,338	55,690	93,028
CLARKSBURG	2,669	6,402	2,981	3,421	9,071
COCHITUATE	-	149,773	75,880	73,893	149,773
CONNECTICUT RIVER RAMP	-	-	-	-	-
CONWAY	-	-	-	-	-
COOKSON	-	2,748	2,748	-	2,748
D.A.R.	13,668	38,495	18,415	20,080	52,163
DEAN POND BRIMFIELD	847	19,338	6,894	12,444	20,185
DEMAREST LLOYD	-	49,302	12,167	37,135	49,302
DENNISON LAKE	31,502	95,669	81,220	14,449	127,171
DIGHTON ROCK	-	11,980	8,747	3,233	11,980
DOUGLAS	-	82,395	40,160	42,235	82,395
DUBUQUE	-	27,177	27,177	-	27,177

AREA	CAMPING	DAY-USE	NON-PAID	PAID	TOTAL
EAST MOUNTAIN	-	-	-	-	-
ERVING	7,149	73,282	52,495	20,787	80,431
FALL RIVER HERITAGE	-	-	-	-	-
FED. WOMENS CLUB	509	14,081	13,942	139	14,590
F.G. HILLS	-	5,063	5,063	-	5,063
FREETOWN	-	35,664	31,497	4,167	35,664
GARDNER	-	8,983	5,130	3,853	8,983
GEORGETOWN-ROWLEY	-	-	-	-	-
GRANVILLE	9,929	14,754	8,369	6,385	24,683
GREAT BROOK FARM-CARLISLE	-	31,415	31,415	-	31,415
HALIBUT POINT	-	22,889	22,889	-	22,889
HAMPTON PONDS	-	57,773	25,159	32,614	57,773
HAROLD PARKER	26,191	52,750	40,219	12,531	78,941
HAWK'S NEST	-	-	-	-	-
H.O. COOK	-	-	-	-	-
HOLLAND POND	-	19,449	12,420	7,029	19,449
HOLYOKE RANGE	-	35,035	35,035	-	35,035
HOPKINTON	-	108,272	32,428	75,844	108,272
LEOMINSTER	-	48,220	20,331	27,889	48,220
LOWELL-DRACUT	-	12,810	12,810	-	12,810
LOWELL HERITAGE	-	184,555	184,555	-	184,555
LUDLOW	-	-	-	-	-
MARTHA'S VINEYARD	-	61,113	61,113	-	61,113
MASSASOIT	36,168	28,436	13,408	15,028	64,604
MOHAWK TRAIL	10,645	21,427	16,750	4,677	32,072

AREA	CAMPING	DAY-USE	NON-PAID	PAID	TOTAL
MONROE	-	-	-	-	-
MOORE	-	14,449	14,449	-	14,449
MT. EVERETT	-	54,929	54,929	-	54,929
MT. GRACE	-	17,494	15,660	1,834	17,494
MT. GREYLOCK	16,081	176,685	176,113	572	192,766
MT. SUGARLOAF	-	58,575	58,575	-	58,575
MT. WASHINGTON	820	110,570	110,570	-	111,390
MYLES STANDISH	98,604	119,747	77,477	42,270	218,351
NANTUCKET	-	-	-	-	-
NICKERSON	133,449	110,233	110,223	-	243,672
NORTHFIELD	-	-	-	-	-
OCTOBER MT.	7,862	35,445	35,445	-	43,307
OTIS	-	-	-	-	-
OTTER RIVER	24,489	53,140	40,691	12,449	77,626
PEARL HILL	4,658	13,335	2,730	10,605	17,993
PERU	-	-	-	-	-
PETERSHAM	-	-	-	-	-
PITTSFIELD	6,709	92,217	84,256	7,961	98,926
PLUM ISLAND	-	116,357	116,357	-	116,357
PURGATORY CHASM	-	64,722	64,722	-	64,722
QUINSIGAMOND-REGATTA	-	187,091	150,888	36,203	187,091
QUINSIGAMOND-LAKE PARK	-	56,521	41,114	15,407	56,521
RED BRIDGE	-	-	-	-	-
RICH, J. HARRY	-	-	-	-	-
ROBINSON	-	18,124	7,961	10,163	18,124

AREA	CAMPING	DAY-USE	NON-PAID	PAID	TOTAL
RUTLAND	-	33,915	16,897	17,018	33,915
SANDISFIELD	-	13,166	8,336	4,830	13,166
SAVOY	10,123	23,939	19,825	4,114	34,062
SHAWME-CROWELL	62,980	5,857	4,824	1,033	68,837
SKINNER	-	104,165	104,165	-	104,165
SOUTH RIVER	-	-	-	-	-
SPENCER	-	18,407	8,064	10,343	18,407
STANDISH MONUMENT	-	14,684	14,684	-	14,684
STREETER	-	44,876	25,801	19,075	44,876
TACONIC FALLS	-	-	-	-	-
TOLLAND	28,037	84,104	62,520	21,584	112,141
TULLY RECREATION AREA	2,299	12,879	12,874	5	15,178
UPTON	-	14,760	14,760	-	14,760
WACHUSETT MOUNTAIN	-	311,675	311,675	-	311,675
* - SKI AREA	-	247,686	247,686	-	247,686
WAHCONAH FALLS	-	36,763	36,763	-	36,763
WALDEN POND	-	553,683	136,085	417,598	553,683
WARREN MANNING	-	3,364	2,195	1,169	3,364
WARWICK	-	-	-	-	-
WATSON	-	26,840	11,541	15,299	26,840
WEBB	-	58,144	58,144	-	58,144
WELLS	17,448	14,653	13,892	761	32,101
WENDELL	-	20,956	12,543	8,413	20,956
WEST LAKE	67	2,616	2,616	-	2,683
WHITEHALL	-	11,643	11,643	-	11,643

* Privately operated

AREA	CAMPING	DAY-USE	NON-PAID	PAID	TOTAL
WILLARD BROOK	5,087	39,063	8,245	30,818	44,150
WILLOWDALE	-	28,993	28,993	-	28,993
WINDSOR	3,855	22,335	12,150	10,185	26,190
WOMPATUCK	35,300	354,886	354,886	-	390,186
TOTAL	607,757	5,203,621	4,001,513	1,202,108	5,811,378

SKATING RINKS	DAY-USE	TOTAL
AUBURN	193,021	193,021
BROCKTON	138,854	138,854
FALL RIVER	136,966	136,966
FRANKLIN	153,445	153,445
GARDNER VETERANS	95,993	95,993
GREENFIELD	105,591	105,591
HAVERHILL	65,982	65,982
HOLYOKE	133,833	133,833
LOWELL	124,241	124,241
MARLBORO	207,170	207,170
NEW BEDFORD	134,993	134,993
NEWBURYPORT	137,831	137,831
NORTH ADAMS	60,569	60,569
PEABODY	175,946	175,946
PLYMOUTH	122,608	122,608
SPRINGFIELD	104,714	104,714
TAUNTON	91,837	91,837
WORCESTER	183,518	183,518
TOTAL	2,367,112	2,367,112

SWIMMING POOLS	DAY-USE	TOTAL
AGAWAM	19,140	19,140
ATTLEBORO	18,595	18,595
BROCKTON	30,291	30,291
CHICOPEE	13,837	13,837
CLINTON	29,018	29,018
FALL RIVER	27,817	27,817
FITCHBURG	16,196	16,196
HOLYOKE	6,409	6,409
LAWRENCE	24,224	24,224
LEOMINSTER	21,017	21,017
LOWELL	15,611	15,611
LUDLOW	13,898	13,898
MILFORD	24,168	24,168
SOUTHBRIDGE	15,600	15,600
SOUTH HADLEY	12,695	12,695
SPRINGFIELD	13,260	13,260
WESTFIELD	14,376	14,376
WORCESTER #1 (SHINE)	37,725	37,725
WORCESTER #2	37,069	37,069
TOTAL	390,946	390,946

BEACH AREAS	CAMPING	DAY-USE	NON-PAID	PAID	TOTAL
FT. PHOENIX	-	59,896	50,960	8,936	59,896
HORSENECK	26,738	397,975	100,782	297,193	424,713
SALISBURY	172,882	1,605,209	1,500,970	104,239	1,778,091
SCUSSET	48,896	141,553	88,759	52,794	190,449
SOUTH CAPE	-	37,432	25,324	12,108	37,432
TOTAL	248,516	2,242,065	1,766,795	475,270	2,490,581

	CAMPING	DAY-USE	TOTAL
Total Attendance At All Facilities	856,273	10,203,744	11,060,017

<u>PROGRAMS AND ATTENDANCE</u>			
<u>FACILITY</u>	<u># OF PROGRAMS</u>	<u># OF PARTICIPANTS</u>	<u>AVG.</u>
<u>REGION ONE</u>			
Boston Harbor Islands S.P.			
Bumpkin Island	35	200	6
Gallops Island	69	463	7
Georges Island	227	3430	15
Grape Island	103	779	8
Great Brewster Island	25	184	7
Lovells Island	80	482	6
Peddocks Island	85	1094	13
Dighton Rock	Museum Visitors	1512	-
Massasoit State Park	68	872	13
Myles Standish	156	1800	11
Nickerson State Park	110	2501	23
Shawme Crowell/Scusset Beach	61	829	14
South Cape Beach			
Washburn Island			
Wompatuck	81	621	8
<u>REGION TWO</u>			
Great Brook Farm	92	410	4
Harold Parker	62	1312	21
Plum Island	4	13	3
Salisbury Beach	27	784	29
Walden Pond	201	1024	5
<u>REGION THREE</u>			
Douglas	52	317	6
Otter River	75	1307	17
Wells	89	1067	12
<u>REGION FOUR</u>			
DAR	100	1867	18
Mohawk	28	1277	45
Skinner	273	7612	27
<u>REGION FIVE</u>			
Greylock	36	1950	54
Pittsfield	73	1056	14
Savoy	111	842	8
TOTALS:	2,319	35,592	15

RINKS AND POOLS SECTIONOFF-SEASON, NON SKATING USE OF RINKSFY 84FRANKLIN - Veterans Memorial Skating Rink

- *ORGANIZED YOUTH HOCKEY - By Franklin Street Hockey League
Sundays May 6 - July 31 of 1984
- *ROCK CONCERT - By Franklin Youth Hockey
May 19, 1984

GARDNER - Gardner Veterans Skating Rink

- *BOXING EXHIBITIONS - By Gardner Exchange Club
May 3, 1984
- *HOME & LEISURE SHOW - By Radio Station WGAW - March 31,
and April 1, 1984
- *INDOOR STREET HOCKEY ASSOC. - June 23, 1984

GREENFIELD - Greenfield Area Skating Rink

- *LAS VEGAS NIGHT - By Greenfield Minor League
June 2, 1984

HAVERHILL - Veterans Memorial Skating Rink

- *FLEA MARKET - By the Haverhill Gazette
Santa Fund - July 16, 1983

LOWELL - John J. Janas Memorial Skating Rink

- *HIGH SCHOOL DANCES - By Lowell N.E. Baseball Committee
5/25, 6/1, 6/8, 6/15, 6/22, 6/29,
of 1984

MARLBORO - John J. Navin Skating Rink

- *FESTIVAL - By Marlboro Retail Liquor Dealers
Association - June 17, 1984
- *CONCERT - By Marlboro High School
(Project Courtroom) - June 17, 1984

PLYMOUTH - John Armstrong Memorial Skating Rink

- *BENEFIT DANCE - By Kenneth Garrett Benefit Committee
July 30, 1983

NON-ICE RELATED RINK USEGREENFIELD - Greenfield Area Skating Rink

- *ANNUAL HOME & TRADE SHOW - By Franklin County Chamber of
Commerce - April 26 - April 29,
1984
- *SCIENCE CAREER FAIR - By Greenfield Volunteers in Public
Schools through the Hitchcock Center
Amherst - May 17, 18 of 1984

MARLBORO - John J. Navin Skating Rink

- *CRAFT FAIR - By R&R Features Inc.
June 2, and 3 of 1984

NORTH ADAMS - Vietnam Veterans Memorial Skating Rink

- *FALL FOLIAGE FESTIVAL - By Northern Berkshire Chamber of
Commerce - October 2, 1983
- *OCTOBERFEST CELEBRATION - By Rotary Club of North Adams
September 22 - September 24, 1983
- *ANNUAL HOME/TRADE SHOW - By Northern Berkshire Chamber of
Commerce - April 14, 15, 16 of 1984

OFF-SEASON ICE RELATED USENEWBURYPORT - Henry Graf Jr. Skating Rink

- *PORT HOCKEY SCHOOL CAMP (Daniel O'Connell) August 1 -
August 26, 1983
- *BOB COFFILL'S YOUTH HIGH SCHOOL - August 29 - September 2, 1983

RINK USE PERMITS

BROCKTON - John G. Asiaf Memorial Skating Rink

*ANNUAL SKATE-A-THON - By Muscular Dystrophy Association
New Year's Eve - December 12, 1983

FALL RIVER - Veterans Memorial Skating Rink

*HOCKEY POWER SKATING CLINIC - By Claude Tetreault
September 28 - November 28, 1983

PEABODY - James McVann-Louis O'Keefe Memorial Skating Rink

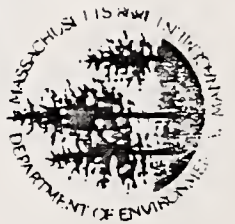
*DANVERS ALTERNATIVE HIGH SCHOOL

JUNIOR RANGER PROGRAM



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

DIVISION OF FORESTS AND PARKS



JUNIOR RANGER PROGRAM REGISTRATION AND WAIVER FORM

Participant's name _____

Address or campsite _____

Phone number _____ Age _____

Allergies _____

Parent or guardian's name _____

Address or campsite _____

Home phone number _____ Work phone number _____

Person to contact in case of emergencies _____ Phone number _____

I hereby give full approval and permission for my child to participate in the Massachusetts Division of Forests and Parks JUNIOR RANGER PROGRAM. I have read and understand the requirements of the program as outlined in the informational brochure.

I hereby agree to indemnify and hold blameless the Commonwealth of Massachusetts, its Division of Forests and Parks, its servants, agents, employees and program directors from any or all liabilities and injuries, due to their acts or failure to act, during my child's participation in this program.

I certify that I am the lawful parent/guardian of the above child and am authorized to give said release.

WHAT IS THE JUNIOR RANGER PROGRAM?

Sponsored by the Massachusetts Department of Environmental Management's Division of Forests and Parks, the JUNIOR RANGER PROGRAM is a fun way for 10-14 year-olds to get acquainted with the Massachusetts Forests and Parks system. Participants become actively involved in the management of the natural and cultural resources of the state, and they learn a variety of skills related to working and recreating in the outdoors.

HOW DO I JOIN?

To become a **JUNIOR RANGER** candidate, fill out the attached permission form and use it to register with the interpreter at one of these parks: **Wompatuck State Park - Hingham**

Wompatuck State Park - Hingham
Massasoit State Park - East Taunton

Nickerson State Park - Brewster
Salisbury Beach State Reservation - Salisbury
Harold Parker State Forest - North Reading
Wells State Park - Sturbridge

**Holyoke Heritage State Park - Holyoke
Pittsfield State Forest - Pittsfield**

Use this brochure to record your progress in the program.

REQUIREMENTS AND AWARDS

Candidates work with the park interpreter at the parks listed above to complete a variety of projects, ranging from sand dune restoration to orienteering. They also learn about the park - its history and natural environment. Participants will receive a JUNIOR RANGER arm patch and a certificate recognizing their achievements.

The following list highlights some of the projects you might work on. Specific projects are different in each park. Some activities can be completed on your own, while others can only be done with the guidance of the park interpreter. You may participate in the JUNIOR RANGER program at any of the parks mentioned earlier, and you may start the program in one park and complete it in another.

Candidates must complete two projects from each of the four categories in order to become official JUNIOR RANGERS. At least two of the eight projects must be activities led by a park interpreter.

JUNIOR RANCHER ACTIVITIES

PARK MANAGEMENT

1. map the park area
2. assist in the contact station or information booth

INTERPRETATION

1. Help collect specimens for a live animal program
2. make a display about local flowers

RESOURCE MANAGEMENT

1. plant trees
2. test water quality at camp pond

SKILLS

1. complete an orienteering course
2. build a safe campfire

RECORD YOUR PROGRAM BELOW

PARK MANAGEMENT

1. _____
2. _____

INTERPRETATION

1. _____
2. _____

RESOURCE MANAGEMENT

-

SKILLS

-

**Interpreter's
signature**

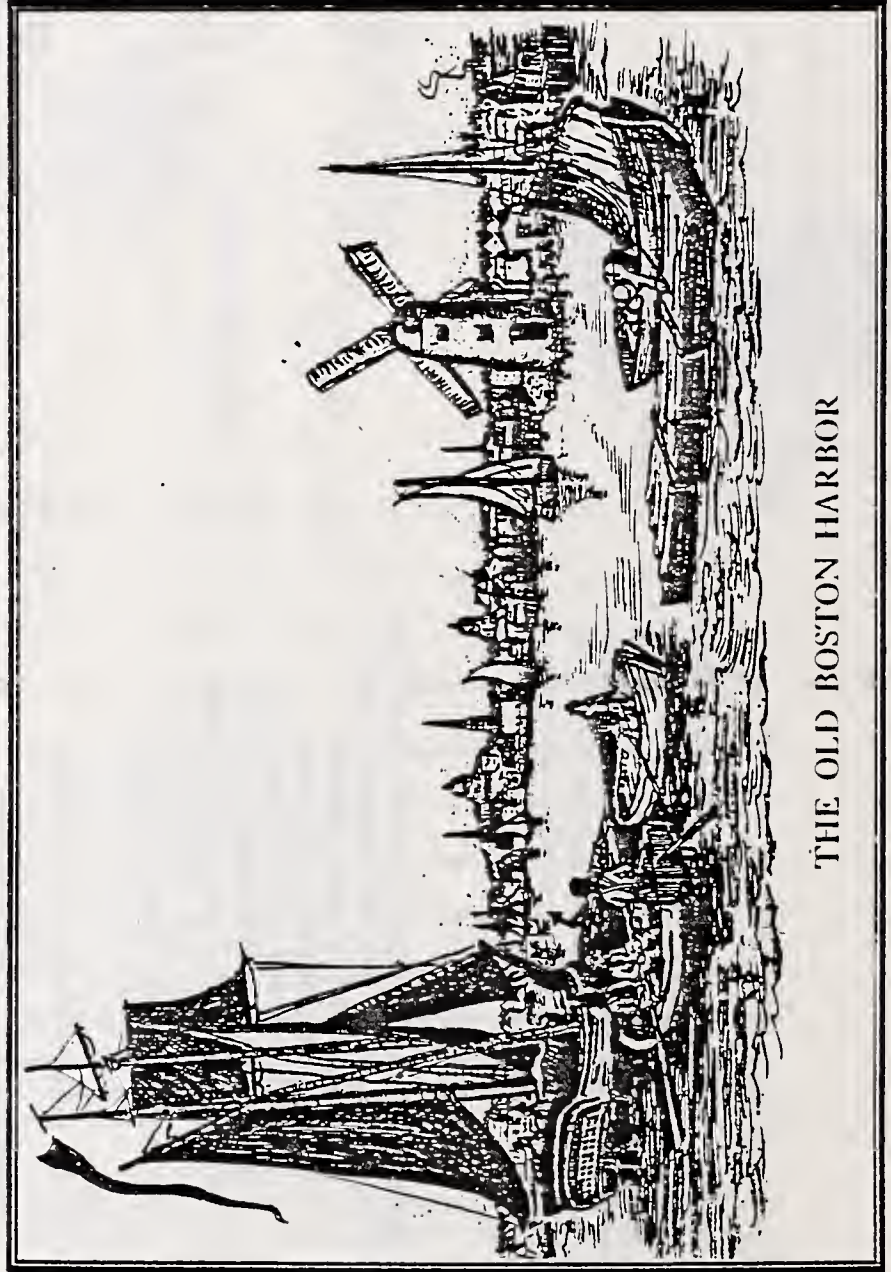
Boston Harbor Islands State Park

The islands in Boston Harbor are a unique resource, places of beauty and quiet, full of history and natural diversity. This newsletter is intended to make the island experience richer and more enjoyable for you. Join in this adventure!

September 1983



Inside
ABOUT ISLANDS . . . A special kind of experience
BOSTON HARBOR: Its three bays are full of adventure and history.
A GUIDE TO THE ISLANDS . . . A variety of activities.
ISLAND SURVIVAL KIT: Things to know before you go!
COMING CHANGES . . . The Harbor Islands Plan.
HOW TO GET THERE: Ferry and water taxi information.



THE OLD BOSTON HARBOR

A message from The Governor

On behalf of the Commonwealth of Massachusetts, I welcome you to the Boston Harbor Islands State Park, which is operated jointly by the Massachusetts Department of Environmental Management and the Metropolitan District Commission. These agencies are now engaged in a cooperative effort to improve the Harbor Islands for conservation, preservation, recreation, and better access for all. I hope you will enjoy and use the information in this newsletter and that you will participate in the planning process that is now underway as the first step to an even better Harbor Islands State Park.



CREDITS

Co-Editors:

James Purdy, WFA

Mary Hynes, WFA

Graphic Design:

April Jackson, WFA

Photography:

Darlene Stanton

MDC Archives

Boston Globe

Smithsonian Institute

Art:

Richard Goldberg

Dan Heist, WFA

Contributors:

Katherine F. Abbott, DEM

Carole Schlessinger, WFA

Produced for the Massachusetts Department of Environmental Management
by Wallace, Floyd, Associates Inc.

ACME
BOOKBINDING CO., INC.

DEC 7 1992

100 CAMBRIDGE STREET
CHARLESTOWN, MASS

